

## **Historic, Archive Document**

Do not assume content reflects current scientific knowledge, policies, or practices.



Reserve  
aSF140  
.P38L68  
1964

REPORT OF PROCEEDINGS

WESTERN REGION

# Livestock and Range Specialists Conference

July 8-10, 1964  
at  
Colorado State University  
Fort Collins, Colorado

UNITED STATES DEPARTMENT OF AGRICULTURE  
Federal Extension Service



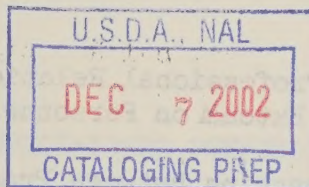
**United States  
Department of  
Agriculture**



**National Agricultural Library**



# TABLE OF CONTENTS



Program--Western Extension Livestock and Range Management Specialists Conference (Colorado State University, Fort Collins, Colorado; July 8-10, 1964).....	1
Subject Matter and Administrative Relationship Between State Staff Specialists and Area Specialists - C. B. Ratchford.....	4
Recreation's Relationship to Livestock and Range Management Program - George E. Bradley.....	9
People, Outdoor Recreation and the Range Livestock Industry - H. R. Hochmuth.....	14
Recreation Pressures on Public Lands and Their Possible Effects on Extension Livestock and Range Management Programs - R. M. DeNio....	20
Agricultural Extension Programs and Wildlife Management in Colorado - Robert R. Elliott.....	27
Recreational Pressures on Public Lands and Their Possible Effects on Extension Livestock and Range Management Programs - Dave Appleton.....	31
The Wildland Commodity of California Ranches - Jim Street.....	34
Interdisciplinary Action in Formulating Livestock and Range Programs - Charles E. Bell, Jr.....	36
Interdisciplinary Action in Formulating Livestock and Range Programs - Paul O. Stratton.....	39
Interdisciplinary Action in Formulating Livestock and Range Programs - Horace T. Strong.....	41
Interdisciplinary Action in Formulating Livestock and Range Programs as Viewed by an Agricultural Programs Leader - Carl Herzman.....	43
Interdisciplinary Action in Formulating Livestock and Range Programs - H. M. Kilpatrick.....	50
Making the Most of Mass Media in the Movement of Our Extension Educational Techniques - Ovid Bay.....	54
How Do My Publications Rate - How Can I Improve Them? - Lyman J. Noordhoff.....	57

Inter-Professional Relationships Between Practicing Veterinarians and Extension Personnel - Rue Jensen.....	73
Relationships Between Practicing Veterinarians and Extension Personnel - William W. Brown, Jr.....	75
Opportunities for Work and Cooperation with the American Society of Range Management - C. H. Wasser.....	76
Conference Summary: Are Regional Livestock and Range Specialists? Conference Worthwhile - Frank H. Baker.....	78
List of Persons in Attendance.....	81



WESTERN EXTENSION LIVESTOCK AND RANGE MANAGEMENT SPECIALISTS CONFERENCE  
Colorado State University  
Fort Collins, Colorado

Tuesday, July 7, 1964

7:00 - 8:00 p.m. Registration

Wednesday, July 8, 1964

8:15 - 8:30 a.m. Program Announcements

8:30 - 8:45 a.m. Welcome - Lowell Watts, Director, Agricultural Extension Service, Colorado

8:50 - 9:35 a.m. Subject Matter and Administrative Relationships Between State Staff Specialists and Area Specialists - C. Brice Ratchford, Director, Agricultural Extension Service, Missouri

9:35 - 10:15 a.m. Discussion

10:30 a.m. - 5:00 p.m. Recreational Pressures on Public Lands and Their Possible Effect on Extension Service Livestock and Range Management Programs

Moderator: N. A. Jacobsen, Montana

Panel Members: George Bradley, USDA; Harold Hochmuth, U.S. Dept. of Interior; Reginald DeNio, USDA; Robert Elliott, Colorado, Dave Appleton, Colorado; and Jim Street, Calif.

Discussion

Thursday, July 9, 1964

Chairman - William Ljungdahl, New Mexico

8:30 - 11:30 a.m. Interdisciplinary Action in Formulating Livestock and Range Programs

Moderator: Charles E. Bell, Jr., Federal Extension Ser.

Panel Members: Paul Stratton, Wyoming; Horace Strong, California; Carl Herzman, Colorado; and Mike Kilpatrick, Nevada

1:00 - 4:00 p.m. Livestock Specialists Meeting

Tour - W. R. Culbertson, Colorado

Bull Selection - International Beef Breeders

Progeny Groups from Colorado ROP - Type Studies,

Coor's Feedlot - J. K. Matsushima, Colorado



Thursday, July 9, 1964

1:00 - 4:00 p.m.

Range Management Specialists Meeting

Chairman - Mike Kilpatrick, Nevada

Effective Methods of Working with Federal and State  
Agencies in Range Management Programs

Integration and Development of Public and Private  
Lands

- A. Methods We Are Using to Develop a Program That  
Considers the Concomitant Development of Both
- B. Explore Any Other Means of Accomplishing  
These Ends

5:00 p.m.

Trout Fry - Coche la Poudre River (catch your own?)

Committee:

Chairman - George Scott, Colorado  
Ken Faulkner, Wyoming  
Dick Stauder, New Mexico

Friday, July 10, 1964

Chairman - Al Lane, Arizona

8:30 - 9:30 a.m.

Making the Most of Mass Media in the Improvement of  
Our Extension Educational Techniques - Ovid Bay,  
Field Editor, Farm Journal

9:30 - 10:00 a.m.

Discussion

10:15 - 11:30 a.m.

How Do My Publications Rate - How Can I Improve  
Them? - Lyman J. Noordhoff, Publications Specialist,  
Federal Extension Service

1:00 - 2:20 p.m.

Livestock Specialists Meeting

Chairman - Dick Stauder, New Mexico

Relationships Between Practicing Veterinarians and  
Extension Service Personnel

Rue Jensen, Dean, College of Veterinary Medicine,  
Colorado

W. W. Brown, Jr., Extension Veterinarian, Colorado

Friday, July 10, 1964

1:00 - 2:20 p.m.

Range Management Specialists Meeting

Chairman - Mike Kilpatrick, Nevada

Extension's Goals in Range Management Work With Rural  
Youth Effective Methods of Establishing and  
Arranging Range Management Programs With Rural  
Youth Through Camps, Publications, and Other Means

2:20 - 3:15 p.m.

Summary

Are Meetings of This Type Worthwhile - Frank H. Baker,  
Extension Animal Scientist, Federal Extension Service

ooOoo



Friday, July 10, 1964

1:00 - 2:30 p.m.

Rangeland Management Specialist's Meeting

Chairman - Mike Kilgus, Nevada

Extending Goals in Rangeland Management Work With Rural  
Youth: Effective Methods of Establishing and  
Arranging Rangeland Management Programs With Rural  
Youth Through Camps, Exhibitions, and Other Means

2:30 - 3:15 p.m.

Are We Meeting the Needs of the Rural Youth?  
Extension Animal Husbandry, Federal Extension Service  
Extension Animal Husbandry, Federal Extension Service

Meeting  
Room



SUBJECT MATTER AND ADMINISTRATIVE RELATIONSHIP BETWEEN  
STATE STAFF SPECIALISTS AND AREA SPECIALISTS 1/

The concept of Area Specialist is relatively new in Extension. Some staff members want to believe this is just another fad, particularly of Directors, which will also pass. Hence, the first part of this paper is devoted to reviewing the staffing pattern from a historical point of view, and indicating some of the factors which are creating a demand for specialization throughout the organization.

The traditional staffing pattern of Extension has been having field workers in each county who are supported by a staff of Specialists located at the University. County staff members are expected to be generalists and as such be able to answer the majority of questions brought to them in the broad field of agriculture. The field staff has done most of the direct teaching with the Specialists giving first priority to training the field staff. In reality, there has been some specialization almost from the beginning of Extension. Certainly, the addition of Home Economists to county staffs represented some specialization. The addition of 4-H Club or Youth Agents represented additional specialization, and ordinarily, when more than one man was assigned to agriculture, there was some mutually agreed upon specialization between the men agents even though this might not have been reflected in titles.

The concept of generalists in the field and Specialists at the University has served Extension quite well up to this point. Particularly in the early years of Extension, when communications were poor and travel slow, it was, by all odds, the most effective means of getting Extension close to the people. It provided a mechanism which enabled Extension to reach the masses of people in rural areas, even if they were reluctant to receive the information, which was often the case in the early years of Extension. The pattern of county staffing helped to promote budgets, not only from counties, but also through state legislatures, which gave a strong voice to rural people.

This system, which was once so effective, has been coming under increased pressure in recent years. The major factor for this pressure has been the explosion of knowledge. All of the scientific knowledge known about agriculture could have been put in one thick book at the time county agent work was started. Today, it is impossible for one person to even read all of the new information that becomes available in the field of agriculture and flows into our libraries. It is impossible for one person to be an authority in the same sense that it was possible for a person to be thirty to fifty years ago. Couple the explosion of knowledge with increased specialization of farmers and the increased knowledge and ability of farmers in addition to higher expectations, and you necessarily come up with a situation which puts pressure on an organization which depends upon generalists. It is important to recognize that what people think is as important to their reactions as what actually is. It is hard for me to believe that the generalist county agent cannot be of some help to almost any farmer. The important thing is not what I think, or what actually is, but what the farmers think. Increasingly, they are losing confidence in the generalist.

---

1/ Presented by C. B. Ratchford, Director of Extension Service, University of Missouri, at the Western Extension Livestock and Range Management Specialists Conference, Colorado State University, Fort Collins, Colorado, July 8-10, 1964.



There are other factors which are putting pressure on the traditional system. Both transportation and communication have made having a person near at hand less important. The long distance telephone, good roads, and the mass communication media have made it unnecessary for the Extension worker to be in close physical proximity to his clientele. Depopulation of rural areas, which is the pattern in most of the Midwest and West, is also putting pressure on county staffing. More bluntly, it is harder to justify in many people's minds an Extension staff for 400 farmers than it is for 1600 farmers.

The need today is for Specialists in the field, as well as at the university. The staff must be real Specialists, and not just generalists with a changed title. This situation creates no real problem for some states. California, Arizona, and possibly a few other states, have had Specialists in the field staffs for a number of years. No real problem is encountered in specializing field staffs in any state where the clientele and financial resources justify a number of Extension workers in a single county. In most of the West and Midwest, securing any reasonable degree of specialization will require pooling of staffs in several counties. This creates some real administrative problems. We have learned from experience that the administrative problems can be solved and that the benefits are well worth the effort.

The alternative to specializing the field staff is having the field staff serve simply as arrangers; that is, they get groups of local people together and make physical arrangements, but the actual instruction is done by Specialists from the University, or from some other agency. While the field staff has always, and will probably continue to perform to some extent as arrangers, I am afraid that putting them entirely in the role of arrangers will sound that death knell for Extension. This is simply the first step in saying the field staff is unnecessary. It is not feasible from a physical or political standpoint to expect to have sufficient staff at the university level to give all of the instruction needed. The void which would be created by eliminating the field staff would be filled by other agencies or other colleges and universities.

The assigned title suggested a discussion of Area Specialists. In most Extension circles, this is understood as a person who serves more than one county. You may have noted that up to this point I have used the term "specialization of field staff", and this I will continue to use throughout the talk.

While specialization of field staff in most of the states will necessarily involve a person working in more than one county, in some states and perhaps in one or more counties in almost every state, there can be specialization within a single county. I think the problems of specialization of the field staff are the same, whether the unit is a county or several counties, except for the fact there is a tradition relative to county staffing.

Several patterns for providing Specialists in the field are emerging. One pattern which has been followed successfully in California and Arizona for a number of years and which constitutes no particular problem is specialization of the county staff. A second pattern has been locating some state Specialists away from the university. Usually they are associated with a branch Experiment Station or a university off-campus center. This pattern likewise has created no particular problems inasmuch as the Specialists have usually been located away from the university for convenience and have continued to serve in much the same role as state Specialists; that is, serving primarily as backstoppers for the field staff. A pattern which is beginning to emerge and which, at this stage, seems to hold the most promise is having several counties pool staffs to permit specialization.



These workers continue to serve as Agents, in the sense that they go directly to the clientele. Counties continue to give both salary and non-salary financial support for the Agents. This pattern seems to hold real promise in those areas where specialization cannot be afforded in a single county. There are several variations of this general plan. In some cases, personnel are specialized along commodity lines, and in others, along functional lines, or a combination of these. In some states, they are trying to leave at least one person with responsibility to a single county, with the rest of the staff working on an area basis. In states that are following this pattern, they are having the area Specialist either work on major commodities, with the one person left in the county handling all that remains, while in another state, they are letting the one person assigned to a county handle the major commodity for that county, with the area Specialist handling the minor commodities, and thus freeing the person continuing to be assigned to a single county to really become a Specialist in that commodity.

In several states, they are deliberately trying all of these patterns, and are trying to learn which will eventually be best.

Administrators much prefer specialization of agents on an area basis to assigning state Specialists to various parts of the state. It has proved practically impossible to get county support for the state Specialists, but the counties will support, often on an increased basis, area specialized agents. Further, we have the old tradition of agents actually working with the clientele with Specialists training agents. The need is for more people to work directly with clientele.

Regardless of the pattern followed in securing specialization of the field staff, there is an intensified need for state level Specialists. I repeat, there is an intensified need for state level Specialists. This point is stressed, because some state Specialists have wondered whether they would be needed if the field staff was completely specialized. It will undoubtedly result in a changed role for the state Specialists. In the remainder of this talk I will discuss specifically some of the relationships of area and state Specialists and some of the problems that will be encountered and which must be solved.

Perhaps the most important change resulting from specialization will be the need for increased competence at both the area and state levels. It has been demonstrated many times, and the results have invariably been the same, that nothing worthwhile is accomplished by simply changing the title of a person. Taking the present field staff and simply changing their titles will result in a very chaotic situation. Any state which is committing itself to a policy of specializing field staff must, at the same time, commit itself to filling the area jobs with true Specialists. The area Specialist positions should be staffed with people of the competence we have traditionally expected of state Specialists. Specialists in the field necessarily mean more highly competent Specialists at the state level. State Specialists will perhaps need a different type of training to some extent from that which has been traditionally expected. In addition to being a real authority in his field, he must have sufficient training in research to be able to communicate with highly sophisticated and long-haired researchers.

A second consequence of specialization is the necessity of developing means of faster communication and problem solving. The Specialists in the field will be keeping up with research underway, and they are not going to be willing to wait for two years after the conclusion of some experiments to learn the results. The state specialist will be the key to faster communications. He must be extremely close to the research work underway in his own state and elsewhere. It will be his job to get the research results to the specialized field staff quickly. As



research becomes more fundamental, it answers directly fewer immediate problems of farmers. It will be the job of the Extension personnel, with the state Specialist taking the lead, to either project how the fundamental research helps solve immediate problems or help fill in the gap with applied research. It seems inevitable that Extension will become more involved in applied research. The specialized field staff can and should be involved, but they must follow a program developed and directed by the state Specialists.

A third result of specialization will be a shift in the amount of time spent at various activities. While the field staff has traditionally done most of the teaching, they have increasingly served as arrangers. The specialized field staff should do practically all of the teaching in their field in their assigned geographic area. It is a waste of time to have a competent field worker call in a highly qualified state Specialist to hold a meeting which the field worker is qualified to hold. If the specialized field staff is not qualified to hold 95% of the meetings or schools they should not be assigned the title of a Specialist. Also, there is no reason why the specialized field staff should not be the primary author, or at least assist in the preparation of some bulletins, news letters, and similar information. With a specialized field staff, the role of the state Specialist will again shift to spending more time in assisting the agents. They must be kept up-to-date with the latest subject matter, given assistance in specific problems encountered, and guided in methodology. Of course, the state level Specialists will spend more time with state level organizations which apparently are on the increase.

Fourth, administrative relations change in a number of ways. It is clear that the traditional relationship of supervisors handling all administrative matters of the field staff cannot persist. By the same token, all cannot be turned over to the state Specialist or subject matter department. Perhaps the most difficult relationship to work out is that of the county agent to area Specialist.

Some ideas are emerging from the experiments underway as to the best relationships. There appears to be a need for an area director or administrator who is fully responsible for all Extension workers in the area, with both the county agent or director and area agents reporting directly to him. He is the supervisor accountable to the director and responsible for all work in the area.

The county agent and area Specialists are co-workers from an administrative point of view. There must be a close relationship between the two, however, and perhaps the most difficult job of the area administrator is to get this understanding.

All county or area workers are responsible to the departments at the university for subject matter content and accuracy.

The state level specialists should help determine minimum qualifications for area Specialist positions, help recruit area Specialists, and participate in evaluation of their work. It is in these areas that the Specialists move into the administrative field.

The state Specialists are also responsible for training of area Specialists. This cannot be done in the same manner as has been used for generalists. Also, state Specialists need to serve in a consultive or father-son advisory role to area Specialists in their field.

Our limited experience indicates that the most difficult relationship is between county agents and area agents.

Fifth, major problems also have to be resolved in the area of programing. Here again the state Specialist's role is both changed and broadened.

New areas include state Specialists helping administrators determine which counties should work together in area staffing and the Specialists who should be part of the team in that area. State Specialists also have a major responsibility to help area Specialists develop a sound program. Incidentally, this may require a major departure in procedure from the traditional county approach to programing.

The real knotty question relates to the role of the area Specialist and county agent in programing. We have learned that the county agent cannot do the planning for the area agents. Likewise, area agents cannot plan on an area basis without affecting the county agent. Likewise, the state Specialist has to determine the extent to which he works with area agents, county agents, or both. Some rather arbitrary answers are necessary to all these questions.

The sixth and final point I will discuss relates to attitudes. State Specialists must help area Specialists, whose positions are important, and help keep them in the field. The area Specialists must also look not only to state Specialists in their field, but also in related fields. Area specialists must necessarily be "broader" than state Specialists.

While there are many problems, the benefits far exceed the cost. We must move ahead.

ooOoo





## RECREATION'S RELATIONSHIP TO LIVESTOCK AND RANGE MANAGEMENT PROGRAM 1/

I have looked forward to this opportunity to meet with you today. It is indeed a pleasure and a challenge. The subject assigned to this panel this morning is one that is becoming more and more complex.

To set the subject in perspective, I believe it would be well for us to look first at the recreational demands and resources with specific reference to those areas or activities where there may be potential conflicts in use.

According to the ORRRC Report, it is estimated that while the population will double by the Year 2000, the demand for recreation will triple. This report was developed from 1959-1961 and published in February of 1962. Most data used for the report were secured from surveys and tabulations of data representative of the period just prior to 1961. Already, research workers in the Department are accumulating evidence which indicates that the projections made by ORRRC are conservative. In any event, we know that demand for outdoor recreation is leaping forward. With rapid increase in population, with increased incomes, automation, advanced technology, and increased leisure time it appears certain that this trend will continue.

We know that in ten years from now there will be 8 million more families than there are today -

8 million more students in college, twice the present number;  
the Gross National Product will approach a trillion dollars a year;  
93 million people in the work force;  
per capita income will be 50% greater than it was in 1960.

These changes present us with the challenge to adjust our plans from a fear of scarcity to meet the challenge of abundance.

President Johnson, speaking at the University of Michigan recently, described the challenge in these words:

"The challenge of the next half century is whether we have the wisdom to use the wealth to enrich and elevate our national life and to advance the quality of American civilization."

Speaking at a meeting of the National Farm Editors Association in Washington last month, Secretary Freeman predicted that within 20 years rural recreation would replace beef cattle as the largest single source of farm income. The Secretary went on to say that rural America will be called upon to furnish most of the additional open space and recreation facilities needed as a result of the rising national income.

The availability of recreational facilities presents an unknown factor which has a tremendous effect on recreation demand. Specific recreational demands vary as facilities become available. A few years ago, water skiing was an activity enjoyed by a few people in Florida. Most people heard of the sport only through the news

---

1/ Presented by George E. Bradley, Staff Assistant, Office of Rural Areas Development, USDA, at the Western Extension Livestock and Range Management Specialists Conference, Colorado State University, Fort Collins, Colorado, July 8-10, 1964.

reels or movie shorts at their local theater. According to ORRRC, in 1960 8 million people, or 6% of the population, participated in water skiing. They estimated that by the year 2000, over 31 million people, or 12% of the population would participate. Again, this estimate can be low, particularly if additional facilities are provided.

The ORRRC report listed 17 selected summer-oriented recreational activities. In the order of their demand by extent of participation, they are:

1. Driving for pleasure
2. Swimming
3. Walking for pleasure
4. Playing outdoor games or sports  
(Tennis, golf, baseball, football, etc.)
5. Sightseeing
6. Picnicking
7. Fishing
8. Bicycling
9. Attending outdoor sporting events
10. Boating
11. Nature walks
12. Hunting
13. Camping
14. Horseback riding
15. Water skiing
16. Hiking
17. Attending outdoor concerts, drama, etc.

I list these in an attempt to identify the recreational activities that present potential problems. Here we find that, in most instances, there is little or no conflict. In fact, in many cases, the livestock grazing enterprises are complementary to recreational activity. This is definitely true for out-door sporting events--rodeos, horseback riding, nature walks, sightseeing, and driving for pleasure. The opportunity to observe good livestock and green pastures are pleasant experiences for many people.

Vacation farms are a recreational activity which is growing very rapidly. Dude ranches, started by the western livestock producers, were the forerunners for this enterprise. Today, with a rapidly decreasing farm population, more and more children are denied the opportunity of seeing things grow, of milking a cow, of gathering eggs, of playing in the hay mow, etc.

In attempting to identify areas of conflict, the only conflicts I can find for water-oriented activities are somewhat remote and relate to watershed protection and pollution abatement. Very definitely, these activities do not compete for land.

The conflict between big game and domestic animals is perhaps one of the basic problems. Again, this conflict has not increased proportionately with the expanding demand for recreation. It is a problem that I am sure you are familiar with, and it is one that all of us can help to resolve. With proper land management and proper land conversions, adequate pasture and forage supplies can be developed to provide the feed and forage necessary to produce all the livestock needed in the foreseeable future. Proper management and development of game forage resources will also provide more and better forage resources for domestic livestock.



The Food and Agricultural Act of 1962 provides authority for this Department to assist farmers to convert land now devoted to the production of surplus crops to other uses--primarily, to trees, grass, and recreation. In 1962, when this legislation was being considered by the Congress, it was estimated that we could produce all the food and fiber that we could consume and export on 50 million fewer acres than we were then using. Current projections being prepared by the Department indicate that this estimate was also too low. Present preliminary estimates indicate that we perhaps need to convert between 75 and 80 million acres of cropland to other uses. Trees and grass will take the lion's share of this surplus acreage. It is possible that more acreage will be converted to grass, since this crop generally yields relatively immediate returns.

Conversion of land to recreation use provides one of the greatest opportunities to increase farm income. It provides a splendid opportunity to promote diversified economic development in rural communities. Conversion to recreational use can also utilize land. While only limited acreage of cropland is required for water-oriented activities and for such activities as camping, picnicking, horseback riding, and walking, substantial acreage will be required for outdoor games and sports. Most important of these is golf courses. In 1963, there were 7100 golf courses of all types in the U.S. The National Golf Foundation has estimated a need for at least 10,000. These additional 2900 courses, if properly constructed, would use approximately 400,000 acres of land. A good portion could be from cropland now producing agricultural commodities in surplus supply.

Food and cover practices for the benefit of wildlife are using a considerable acreage of cropland, particularly throughout the Northern Plains. Opportunities to convert land to food and cover for game birds by the farmer and livestock producer must carry with it an opportunity to supplement the farmer's and livestock producer's income.

These food and cover programs can convert considerable cropland acreage to producing a saleable commodity not in surplus supply.

As we move into providing recreation for profit on private lands, the charging of fees will provide for more effective control and management of the visitors or recreationists. This should act as a deterrent to trespassers, should provide better insurance and liability protection and help to minimize losses to the farmer.

Controlled or reserved hunting on these areas should have three additional advantages:

1. The hunter has an opportunity to hunt on areas that are not crowded or over-hunted.
2. The game birds have nesting and feeding areas which should improve the bird population.
3. Fees to farmers can supplement their income and can control hunting to areas not populated with domestic livestock.

While we have little evidence of developing private riding or hunting estates, this may provide an area where agricultural land and water resources can be conserved and, at the same time, can be devoted to beneficial uses.

This whole concept suggests that recreation enterprises can provide an opportunity for improved farm income, can provide a base for a higher standard of living for



farm people, can provide more jobs and, at the same time, does not present many serious conflicts with the range and livestock industry. During the periods of low prices, such as those now facing the livestock producer, supplemental income to the farmer or rancher can help make ends meet.

There are some areas where professional and technical assistance can help materially to plan for compatible use; for instance, campers and picnickers have a tendency to move in on the lush green meadows, which may also be choice grazing land. Advance planning which provides for camping and picnicking in the wooded or other areas with limited grazing value can avoid this conflict.

Inconvenience to the recreationist by messed up camping and picnicking areas, impeded mobility by fences, etc., can also be minimized with careful advance planning. Livestock killed by hunters, fences cut, and gates left open by recreationists are problems that can be resolved both through controlled use and through better education of the hunter.

Up to now, I have not discussed an important part of the assigned subject, and that is the part which suggests the discussion of pressures on public lands. I did that deliberately, as you will note that I am followed by three capable public land administrators who are more intimately familiar with the problems of recreation pressures on the lands under their supervision.

I would like to stress that recreation demands are such that it will require the astute management and cooperative endeavors of all. A large portion of the increased demands must be satisfied by the private sector and, when it does, the users will be expected to pay for the facilities provided. With proper income incentive, the private sector can meet the special demands and can provide many of the essential services, such as food, lodging, and supplies.

This approach to supplying recreation demands by farmers and ranchers in rural areas suggests that we apply more effectively the multiple use concept. The application of the multiple use concept to private lands is not as well established or as well accepted as it is for the administration of National Forests. Multiple use of private lands is essential if we are to provide a broader economic stability in rural areas. It behooves all of us to develop types of management which promote compatibility in order that rural farmlands can also be devoted to two or more productive uses.

The multiple use concept also applies to all forms of public land use, including those lands set aside for a single purpose use, such as National Parks, Wilderness Areas, reservoir sites, etc.

I would like to quote Assistant Secretary Baker in a recent speech:

"If we are to give more than lip service to the multiple use concept and its application to rural lands, then it is imperative for each of us, as we approach rural land management on a total resource basis, to be prepared to contribute our full share by doing that for which we are best qualified and calling on our co-workers for help in their special fields."

I would be amiss if I did not suggest that the subject we are considering today is one more spoke in the wheel of local economic development, which is referred to in the Department of Agriculture as Rural Areas Development. The full development of our grazing resources, the stable expansion of our livestock and recreational



industries, in line with present and future demands, give each of us a chance to join forces to work for the development of our rural areas in a manner that will give rural people a fuller life and expanded opportunities.

The impact of the rapid change being experienced today in all facets of our economy has been magnified in rural America due to technological advances, shifting populations, reduced job opportunities, fluctuating and sometimes low farm commodity prices, and lower per capita income. We are not sure of the direction of these changes. We do know that, barring some unforeseen catastrophe, the demands for both livestock production and recreation will steadily increase.

We are confident that through the Rural Areas Development concept, we all have an opportunity to join cooperatively with local people to promote a better life in rural America. This is as true for the expanded use of developed grasslands, forests, livestock products, and recreation as it is for any other type of economic development. What we need most is imaginative, determined and sustained creative effort. On this basis, we can set new dimensions which will provide rural America with strong family farms, using both farm and non-farm economic vitality, which will benefit all America. --

Thank you.

ooOoo





PEOPLE, OUTDOOR RECREATION AND THE RANGE LIVESTOCK INDUSTRY 1/

In these times, public discussion about conservation trends and development of natural resources is not likely to ignore outdoor recreation. This conference is no exception. This forum offers an opportunity to reminisce.

Thirty years and 20 days ago and just 12 days before passage of the Taylor Grazing Act, this University, a college then of 1200 students, granted this speaker a BS in Forestry (mostly range management) and said, "Sally forth and save the nation's natural resources."

The first job was on blister rust control. This I think is a good starting point to look back while looking ahead. Our environment yesterday differed from today - what will it be tomorrow? Thirty years ago, we controlled forest pests and insects mostly by mechanical methods. Today, we have pesticides and herbicides but tomorrow if we continue we may not have people or wildlife, or environmental conditions that we consider tolerable.

Thirty years ago, in preparing for a future in resource development and management one had no predictions of the United States of 1964. We learned of Forest Policy, sustained yield, range management, ecological principles, soil management, animal husbandry, and the developing concepts of soil conservation and multiple use. Outdoor Recreation? I can't recall hearing it discussed.

In the western States countless acres of public domain land and national forests lay dormant but available for the hardy. Denver in 1930 was a city of about 200,000 and if one wanted to recreate at Grank Lake or Granby a Denverite could make it in 2 days by auto. Today, 3 or 4 hours by road will get you there.

Today, about the same acreage of public land exists as existed 30 years ago. What differs now? The difference is 80 plus million people, a tremendous growth in our economy, a mobile population that is more than 65% urban, and a sophisticated society with more leisure time.

Those of us raised in the rural west may pine for our lost solitude, the unfettered, uncluttered wide open spaces. Soon this may be found only in dedicated wilderness areas. But our population is no longer rural. It lives in a world of concrete, freeways, housing developments, and polluted air and water.

The desire of people to quit this environment for a few days or for a few weeks is a phenomenon easily observed.

Many seek open space. As their numbers increase, their mere presence has a profound affect on the rural environment. Can we deny that outdoor recreation does not affect the land resource environment? Previously have we thought that rock hounding was a form of outdoor recreation? And if it was, why concern ourselves with a few people roaming around filling their jeans with rocks.

We now know that more than half a million people roam the public lands each year seeking petrified wood specimens and semi-precious rocks. It is a hobby but also

---

1/ Presented by H. R. Hochmuth, Associate Director, Bureau of Land Management, at the Western Extension Livestock and Range Management Specialists Conference, Colorado State University, Fort Collins, Colorado, July 8-10, 1964.

it is outdoor recreation. Before long, their numbers will be tenfold.

What do they and others do unknowingly and in innocence?

Car and truck ruts on frail lands causing erosion and gullying. Depredation of valuable archeological deposits. Holes and pits to injure the unwary livestock, big game, the unsuspecting hunter and hiker. Disturbance of valuable game and livestock watering places.

The list of the developing recreation uses of public lands is legion. We are now just obtaining firm statistics, but estimates indicate that the use annually exceeds of 15 million people, and many times that number in userdays.

Recently, the Wildlife Management Institute reported that in 1962, 14 million persons purchased hunting licenses. The increase was about 80 percent over 1940 and nearly twice our population growth.

These are bare statistics but they are meaningful. Resource management in its largest aspect has a new dimension.

People management.

The outdoor recreation resource on the public lands has always been there. So long as the soil, the water, the wildlife and the open space remain, outdoor recreation is on a sustained yield basis. But unless the resource manager, be he public servant or private entrepreneur, manages capably the people who use the resource for recreation, the resource goes - and fast.

I think few would argue the general observation that grazing has caused deterioration of soil, plant and water conditions on the western range lands. That deterioration has been a long gradual process and it will be a long process to restore the land to some of its former productivity.

But put people on this same land with vehicles, shovels, matches, a far off look and more damage can be done to the resource in one year than a cow can do in a century.

Recently, in a western State I observed a gently sloping valley which 10 years ago was in good condition producing excellent winterfat. Then came a hunter - or was it a seismic crew or a jeep club. The vehicle tracks led up the valley. A watercourse developed. In a short span of years the gully deepened to 15 feet. The winterfat is going, sagebrush is invading.

This crime against the delicate balance of nature was not done by a herbivore. At the same time that a resource management plan was established we should have provided a people management plan.

The Taylor Grazing Act provides unfettered access to the public lands. That is the public lands are open to all legitimate uses and users. Thirty years ago the lawmakers provided for grazing regulation and continuation of mining and mineral leasing activities - all resident commodity uses. Recreation in part was recognized, in that the statute provided for cooperation with State wildlife agencies.

The question of how to protect the resource from itinerant non-commodity users did not arise. I don't think that there was any seer around in those times who could have predicated things to come.



There was no way under the Statute that we could fence out the "critters" and place "no trespassing" signs on the land. In fact, as a matter of public policy and pressure this would be an unrealistic thing to do. The alternative seemed to be a people management plan. A plan to provide some facilities for the recreationist and to control or regulate the itinerant user.

Item one. Development of facilities to draw and to hold people in specific areas. The facilities are designated as protection and sanitation. The use made of the facilities obviously is outdoor recreation.

Item two. Access roads, roads to draw people into specific areas and along specific routes. Areas that have characteristics which meet criteria for outdoor recreation and the resource is of such nature as to sustain heavy people use.

Item three. Regulation and a permit system to prevent people from traveling by wheeled vehicles across fragile lands. This requires travel on designated routes and is a real "toughie" problem to solve in our drive to stay abreast of the people demand for outdoor recreation while protecting the basic resources.

Access to public lands (and private lands for that matter) has been a subject of legislative hearings both Federal and State. Also witness the numerous investigations and reports by State Fish and Game Departments and recreation interest groups. The record indicates that private landowners are, in a substantial manner, preventing public access to public lands.

This implicates the range livestock industry because ranchers are the larger land owners in the open West. In some instances the land owner is blocking off the public land for a private hunting preserve or for a recreation area.

The rancher asserts that when he has permitted recreationists to go upon his land or to traverse his properties enroute to public land he encounters nothing but destruction of range improvements and resources. He faces the same problem as the public land manager.

So no trespassing signs begin to sprout. I think the action he takes in erecting no trespassing signs is right in one light and wrong in another. There are really no "wrongs" in the rancher's desire to protect his property. But, if he is a "no trespasser" landowner, he is not reading the signs of the times and is going about protecting his property in the wrong way.

We do not find the range livestock industry as a group "anti-conservation". In the process of competing in our economy, it attempts to practice conservation of the resource. Perhaps there are few "lily white" conservationists in the industry but that there are a lot of practical men in the business of producing meat from frail resources.

So the rancher is trying in his fashion to protect the resource from people destruction. This puts him in the front row along with Federal Land Management agencies, recreation organizations, wilderness advocates, State parks and fish and game agencies, and industrial land owners.

But there is a difference and the difference is in the approach to the problem of people management.

The range livestock industry or the livestock associations would do well to investigate practices and policies on recreation adopted by the American Forest Products Industries and its associated companies. Enlightened private forest management practices recognize multiple use, and that outdoor recreation is a use compatible with sustained yield forest management.

A spokesman for that industry said in 1962 that population increases and "the hue and cry for more room to romp" led the industry to survey what it had been doing for outdoor recreation and what it could do. A survey showed that about 85 percent of forest industry lands were open to some form of outdoor recreation.

This 1960 survey included some amazing statistics. To quote a few. Of 518 companies surveyed, 107 operated 146 public parks, and 157 picnic areas. The companies donated about 16,000 acres to public agencies for parks and campgrounds and 6000 sites were leased for summer homesites.

Forest industry companies are managing private lands. They own or lease about 53 million acres. The range livestock industry owns or controls considerable more acreage than this.

The old saying "if you can't beat 'em, join 'em" is most applicable to the developing trends in outdoor recreation.

The Bureau of Land Management is an example of a public agency bending to developing trends in our society. The Bureau and the several administrations under which it served had said, "BIM is not in the outdoor recreation business, it has too many other things to do in developing and protecting the resource of the public lands."

We, therefore, went about the business of grazing regulation,,soil and watershed management, forest management, minerals development, wildlife habitat management in coop with State agencies - in fact the whole gamut of multiple use. We also built a few roads and trails for development of the resources. These were the years of the big sleep - the head in the sand.

It may be as many have said, that the BLM is not on the outdoor recreation merry-go-round.

Quietly at first, but later with increasing regularity reports arrived in Washington. To recite a few from a long list.

1. Thousands of people using public lands in Los Angeles City Watershed, Inyo County, California, Health officer reports dangerous condition in contamination of water by campers with no facilities.
2. Campers in Idaho let camp fire get away (no campground facilities) 50,000 acres burned before fire controlled.
3. Utah - recreationists desecrating historic Indian petroglyphs. Should we build a fence and place a locked gate across canyon to deter access?
4. Idaho - Use of public lands along Salmon River creating health and sanitation problems. State health officials concerned.

The list is long and gets longer each day. How out of this dilemma? Let the resource go to pot? Stop building roads which gain access to the resources that should be developed? Request counties and States not to build roads?



Request ranchers to post public lands prohibiting access? Do nothing and hope that the city dwellers will remain in their concrete caves?

This cannot be and we must recognize it. The public land administrator (or any land owner) must recognize it. The Congress must recognize it.

If the land owner is not in the recreation business then he must as a minimum be in the resource protection business. We and they therefore can control the situation if we can direct the use made of land and resources.

We must afford the urbanite an opportunity to obtain an outdoor recreation experience. This is where the range livestock industry has a golden opportunity. An opportunity to continue the age old custom of pasturage while people "roam and romp."

A short time ago, I was visited by a rancher from S.E. Utah. An area where the major portion of his pasturage is obtained from public lands. At the outset, I figured this is another protest against stocking rates, season of use, or reduction in permitted numbers of cattle. I measured my "opponent", noticed his weathered countenance, his hardened hands, his look of determination - a man of the soil - a man of the wide open spaces.

He asked if I was aware of what was going on in southeast Utah. Not to be caught short, I recounted such activities as serious deterioration of soil and vegetation, oil and gas development, development of mine mouth power generation from coal deposits, potash mines, the proposed Canyon Lands National Park, people beginning to run all over a former wilderness area - this caused by the attraction of Glen Canyon Dam and the rising level of Lake Powell.

This people attraction outstanding water based recreation area is changing the face of southern Utah and northern Arizona. In short order I found out that our rancher didn't want to talk grazing capacity. He wanted to talk recreation use and development on public lands.

His argument was that hundreds of thousands of recreationists, perhaps millions were going to trek into SE Utah, attracted by the park and reservoir area. Not all would be or could be accommodated in the future on or around the water. "They will pass near my property and through your public lands getting to where too many people already will be."

His proposition was that he had the ranch, he had the outdoor atmosphere, he could obtain financing to develop his property for guest accommodations. Would the BIM develop foot and horse trails, and basic camping and sanitation facilities in the back country. In exchange, he would maintain these facilities on public land alone or in cooperation with other entrepreneurs. He would assist in protecting the land, prevent it from being littered, rescue lost recreationists, and go about making a profit out of recreation. His telling point was that he could assist in easing the coming recreation pressures on Lake Powell.

I would have offered him a position as Recreation Specialist in BIM except that he couldn't qualify because of a minor detail. Anyone over 70 years of age not only can't be hired but is retired from Civil Service.

Some may say that this story is apocryphal. It is not. If not is it an isolated instance? Perhaps today. Certainly not tomorrow.

What I'm predicting is that the rancher, the land owner, has an unprecedented opportunity to get a leg up on the outdoor recreation merry-go-round. If he owns or controls outdoor open space, he can enter the "race for inner space" directly or indirectly. But no matter what he choses to do, he does not have to go it alone. He does not have to bear the brunt of economic loss because recreationists are depreciating the resource and preventing full commercial use.

It is the responsibility of the people through their State and Federal agencies and public interest organizations to assist the private land owner in protecting his basic resources. If government assists the land owner in developing his natural resources (and it does) surely it ought to assist him in protecting this resource from unwarranted depreciation.

So what can the range livestock industry and its constituents members, in the face of the mounting recreation pressure on the land (any land), do to make a profit, continue in the livestock business, and also meet the test of acting in the public interest? A program:

1. Permit recreationists to transit your land on controlled routes. If there are areas which because of topography or other features, invite the recreationist to pause, construct some facilities and assess a reasonable fee. In this case you are not in the profit taking business for this area, you are preventing unregulated use on other areas.
2. If the pressure of use becomes too great, your county or your State agency (Parks or Fish and Game) should assume the responsibility for development and operation of a recreation area. Sell or lease or donate the land to the appropriate public agency. A basic truth to remember is that recreationists have two routes to travel.

One, they will gravitate to land and open space which meets one or more criteria such as water, arboreal vegetation, geology, history, vistas, half way between population centers, and convenient level pull offs from a road or highway. In short, almost anywhere in a rural setting outside of motel row.

Two, the outdoor recreationist will pause, refresh and enjoy any open space no matter its limited basic recreation attributes if minimum human comforts are provided. These are a place to park the car, and park the trailer or pitch a tent, water, sanitation facilities.

Where is the fireplace and the log camp fire of our youth? That is for wilderness advocates. Most recreationists carry gas stoves. Even if the lignin were available, if used, there is the matter of carbon residues on the pots and pans.

So we have learned by experience that if we provide basic facilities of water and sanitation, we can attract the average recreationist. We must meet his demands and I see no way to deter this movement. At the same time we must use what devices we can to protect the natural resources. The landowner be he private or public has the same goal.



RECREATION PRESSURES ON PUBLIC LANDS AND THEIR  
POSSIBLE EFFECTS ON EXTENSION LIVESTOCK  
AND RANGE MANAGEMENT PROGRAMS 1/

I am pleased to be here and have an opportunity to take part in your discussions. With the current emphasis on outdoor recreation in Federal and State programs the topic selected for discussion seems particularly appropriate. There are increasing demands and pressures for outdoor recreation on both public and private lands. As an example, annual recreation visits to the National Forests and National Grasslands have increased from 27 million in 1950 to 122 million in 1963. We anticipate this will increase to 200 million recreation visits annually by 1975.

The most common use of Forest Service lands for recreation is for activities such as sightseeing, hunting, fishing, and hiking. Almost all of the National Forests and Grasslands are available for these dispersed activities which accounted for over half of the visits, some 72.5 million, in 1963. Picnicking, camping, and winter sports, utilizing improved recreation sites, are also important activities. Some 22 million visits were made to the National Forests and National Grasslands for picnics in 1963 with camping and winter sports accounting for 13.6 and 6.7 million visits, respectively. In addition, some 7 million visits were made to organization camps, hotels, resorts, and recreation residences located on forest lands.

Since the National Forests and National Grasslands are concentrated in the West, recreation opportunities and use of these lands for recreation are greatest in the Western States. Of the 122 million visits for all types of recreation on Forest Service lands in 1963, almost 80 million visits were in the 11 Western States. As one might suspect, California Forests ranked first with over 17 million visits. However, forests in Colorado were a close second with over 12 million visits. With the exception of Nevada, other Western States had from 4 to 8 million recreation visits on forest lands.

Although the area of National Forests in the eastern part of the United States is not large, these lands are important for recreation. For example, in 1963 there were over 4 million recreation visits to National Forests in Michigan and in North Carolina. Virginia and New Hampshire each had over 3 million visits. A number of other States including Pennsylvania, West Virginia, Missouri, Arkansas, Tennessee, Georgia, and Florida had over a million visits on National Forest lands.

To accommodate the increasing recreation load on forest lands the Forest Service, in 1957, initiated "Operation Outdoors" a program designed to modernize existing facilities and construct additional facilities to meet current and expected demands. As a result of this program, we now have some 4600 campgrounds, over 1370 picnic sites, containing over 68,000 family camp and picnic units. There are also 187 winter sports areas on the National Forests and National Grasslands. An additional 2500 sites are devoted to organization camps, hotels, resorts, and recreation residences. Our overall Development Program for the National Forests anticipates construction of 28,000 new campgrounds and picnic areas and 4000 other

---

1/ Presented by R. M. DeNio, Director, Division of Range Management, U. S. Forest Service, at the Western Extension Livestock and Range Management Specialists Conference, Colorado State University, Fort Collins, Colorado, July 8-10, 1964.

recreation sites including swimming, boating, winter sports and public service areas by 1972.

In terms of land use we now have some 100,000 acres, out of a total of approximately 186 million acres in the National Forest and National Grassland system, in sites developed for these more intensive recreation activities. In addition, there are over 14 million acres within the National Forests designated as wilderness, wild, or primitive areas. These wilderness-type areas all serve the same purpose, to preserve natural, primitive conditions for the use and enjoyment of present and future generations. The primary use of these areas is for recreation. To maintain primitive conditions, roads, motorized transportation, commercial timber cutting, or occupancy such as summer homes, hotels, resorts, and organization camps are not allowed. However, grazing by domestic livestock is permitted and the wilderness areas also serve as important watersheds.

While the increase in outdoor recreation is a popular subject at the present time, there are also other pressures on our land resources for urban development, water, wildlife, and for livestock production. Given these pressures, the way in which the apparent recreation demands are interpreted, the effects they have on policies of land managing agencies or actions of private individuals, and what they actually imply in the way of changes in land management and shifts in patterns of land use are of vital concern to all of us.

The present trends in outdoor recreation on the public lands may seem to imply that, in the not too distant future, recreation will be the major use on large segments of these lands. However, as pointed out in the report of the Outdoor Recreation Resource Review Commission, our greatest present and future need is for recreation sites in or near metropolitan areas. Studies conducted for the ORRRC suggest that the kind of outdoor recreation people want most, and for which the future demand is likely to be greatest, is relatively simple -- a path to walk along, an attractive road for a drive, a place to swim, a shady hillside for a picnic -- and people want these things near where they live. The report also points out that our present problems in meeting recreation needs are not so much in terms of numbers of acres devoted to recreation, but in the effective use of these acres. To a large degree there has been a failure to make the best use of lands that are available for recreation. The problem is essentially one of management and I believe this is the basic answer to our overall land use problems. To be sure, additional public and private acres will be devoted to recreation. But, regardless of just how important outdoor recreation will be in the total land use picture, demands and pressures for recreation and other uses add up to an increasing need for more intensive management and management which considers all resources and potential uses.

The Forest Service is responsible for administration and management of the 186 million acres within the National Forests and National Grasslands. In addition, we have equally important responsibilities in two other broad areas which have a direct bearing on land use and management. Our research programs, carried out at Forest and Range Experiment Stations located throughout the continental United States and in Alaska and Puerto Rico, are designed to provide answers to problems in forest, range, watershed, and wildlife habitat management and in outdoor recreation which will apply to the Nation's forests and rangelands both public and private. Although it is a relatively new field, we now have some twenty-five research projects underway delving into many of the problems of forest recreation.

In our Cooperative State and Private Forestry Programs, administered under provisions of the Weeks Act of 1911 and other legislation, we have responsibility to



aid States and private forest landowners in such things as fire control, forest management, tree planting, and pest control. Also, under Title III of the Bankhead-Jones Farm Tenant Act, Forest Service administration of the National Grasslands is aimed at promoting the conservation, improvement, and sustained use of both public and associated private lands. The Chief of the Forest Service is charged with developing policies and procedures for management of the Federally-owned lands within the National Grasslands which will exert a favorable influence for securing sound land conservation practices on intermingled and adjacent private lands.

For many years the Forest Service has managed the National Forests, and more recently the National Grasslands, under principles of multiple use designed to provide sustained yields of timber, forage, water, wildlife, and recreation. Over the years these basic resources of the National Forests and Grasslands have become increasingly important to the citizens of the U. S. and the need for recognition of all uses more critical. Congress recognized their importance and gave statutory position to their management nationwide by passage of the Multiple Use Sustained Yield Act of 1960 under which the Forest Service is now required by law to practice multiple use management.

The concepts and principles of multiple use, which provide for the integration of land uses, pertain not only to the administration and management of public lands but can also be applied by private landowners. Objectives in public land management are overall public benefits, whereas private landowners are more concerned with a fair profit on their investments. However, both objectives can be attained under multiple use. My economist friends tell me that in economic terms multiple use is embodied in the economic theory of joint production. Applied to a private firm such as a ranch operation, and given market conditions and the productive resources available to the rancher, this theory defines the optimum combination of products to produce in order to maximize profits. As applied to public land administration and management it defines, at least theoretically, the optimum combination of uses to maximize benefits to the public at large.

Admittedly we still have a long way to go to attain our objectives in public land management. But with the cooperation of our users, and agencies such as yours, we are making a great deal of progress. We feel that multiple use management on the National Forests and National Grasslands can not only provide increased benefits in terms of products and uses, but can also serve as a demonstration of good land management for private landowners. In addition, our research programs and on-the-ground management can provide knowledge and experience which is extremely useful to private land managers. However, these individuals must be aware of opportunities for improved management. Although the Forest Service is responsible for research and land management activities, agencies such as yours bear a large responsibility for disseminating the knowledge and information gained through our research and management programs. We look to you for assistance through your Extension programs as a means of promoting good land management on both public and private lands.

As to the probable effects of recreation and other pressures on Forest Service land management, I do not foresee any major changes in basic Forest Service management or administrative policies. We are going to continue to manage the National Forests and National Grasslands for all resources. Because of the direct relationship between public and associated private grazing lands, and the economic dependency of both individual ranchers and local communities on the public lands, we must maintain a large nucleus of public grazing lands to protect these interests. There are bound to be some changes in patterns of land use to meet



changing conditions, but in most cases increased pressures for recreation or other uses can be met through more intensive management.

In the administration and management of grazing resources on the National Forests and National Grasslands we have traditionally fostered two policies:

- (1) Proper stocking and improvement of the range resource to achieve desirable watershed conditions and sustained high-level production of forage;
- (2) Equitable distribution of grazing privileges to favor the medium and small local rancher dependent on National Forest and National Grassland ranges, but with due consideration to the large permittee and recognition of changing economic conditions influencing the efficient size of livestock operations.

These policies recognize that forage is a renewable resource which responds to management, whether good or bad, and is a resource available for the production of livestock. They also recognize the dependence of grazing permittees and local rural communities on the National Forests and National Grasslands and the need for stable grazing tenure on these lands. Forest Service regulations governing the administration of grazing and our range management and improvement programs are designed to implement these policies.

Over the years, one of our major problems in the administration of grazing has been to bring levels of stocking in line with the sustained-yield grazing capacity of National Forest lands. Many ranges were being over-grazed when the National Forests were established. They were further damaged during the first World War, when the Government encouraged livestock production and the number permitted on the National Forests reached an all-time high. Since then, and despite reseeding, other range improvements, and better management, substantial reductions have been necessary in order to conserve the range resource. On many National Forest ranges, numbers are now in balance with feed supplies. On others, grazing capacity and livestock use are not yet in balance.

These adjustment programs to conserve the range resources, and the question of how many livestock should be allowed to graze on the range, have always been a major issue between permittees and the Forest Service. This is only natural since adjustments have an impact on the tenure situation and economic welfare of the permittee.

More recently, with the increasing importance of recreation, range users have understandably become concerned that there will be major changes in land use which will preclude grazing. However, under principles of multiple use, the Forest Service is endeavoring to properly assess area by area the relative importance of each resource, its needs and public demands, and provide reasonable ways for use or harvest of each one while considering the needs of all. Where critical review of the condition and trend of the vegetation and stability of the soil has shown that continued use of the land by livestock under existing practices and intensities will deplete the range resource and have an adverse effect on other resources, such as water production, we have worked closely with the National Forest and Grassland users to find mutually agreeable corrective measures. Seeding of forage grasses, development of stock watering places, addition of fences or construction of erosion control devices all are considered.

In managing other resources and their uses, similar approaches have been used. Cutting of timber on steep, easily erodible slopes in important watersheds has



been curtailed where risks of soil loss following logging appear too high. We are attempting to harmonize the rapidly growing recreation use with continued use of other resources. We do not automatically allocate each suitable area to recreation development; we stop to weigh and measure the effect such development will have on other uses of the general area.

Our experience indicates uses such as recreation and grazing are compatible under most circumstances. Heavy recreation use and pressures are usually limited to localized areas. We find few conflicts between grazing and other uses on the bulk of Forest Service lands. As Ed Cliff, Chief of the Forest Service, said at the American National Cattlemen's Annual Convention in Memphis last January, "A few places have proved so popular for special recreation uses that it has been very difficult to meet these demands and also continue to accommodate grazing. In some it has been necessary to eliminate use by livestock in favor of use by people, but in most instances it has been possible to cope with the situation by doing a better job of managing the range resource of the area" -- To quote Chief Cliff further,

"I'm not pessimistic over the impact it (recreation) will have on National Forest Grazing. In the first place, we are learning all the time how to better integrate these two, as well as other National Forest uses. Further, there is an element to the situation that is not always understood and frequently is misunderstood."

"Livestock use and recreation -- and most recreationists -- are not automatically incompatible. The average hunter or fisherman, as well as other vacationists, enjoy seeing livestock and stock-handling activities. Good-looking livestock on good-looking range does not bother them. Poor-looking animals on ranges that have been poorly managed -- and show it -- does bother them. It is when they see this that they decide livestock operations are not compatible with their recreation interest.

"As I see it, there will be places, and really it makes up a small proportion of the total National Forest range, where livestock will have to give way to special types of National Forest recreation demands. But for the most part, permittees that give their grazing allotments the kind and intensity of management they deserve will have little to fear from the expanding National Forest recreation use."

I think we can conclude from the Chief's remarks that grazing will continue to be a major use of Forest Service lands suitable for livestock use, but that this will be dependent on our practicing more intensive and effective range management.

The implications of these recreation pressures on the public lands and recreation opportunities on private lands for your Extension Livestock and Range Management programs will be, it seems to me, largely in terms of: (1) increased needs of farmers and ranchers for developing management plans which make optimum use of all land resources; (2) the need for more attention to recreation enterprises which can be integrated with crop and livestock production; and (3) the opportunity for increased cooperation with public land managing agencies.

Recreation, as a business enterprise, is a relatively new and foreign venture for most farmers and ranchers. Few have had experience in meeting and working with the public. At the present time there is little basis for estimating the



profitability of potential recreation enterprises or sources of information on probable costs and returns. Preliminary results of the RAD program of recreation development on private lands indicate that, as with any business, careful planning is needed and success is not guaranteed. However, there are many opportunities for successful development of recreation resources on private lands. We all have much to learn about outdoor recreation on both private and public lands. It seems likely that, even with the help that will be available through Extension and other programs, there must be a period of trial and error from which recreation will emerge as a common means of supplementing incomes on many farms and ranches. For some with exceptional opportunities for development of recreation resources it will undoubtedly become a major source of income.

With the increasing intensity of management on the public lands there is going to be a need for more cooperation between the Extension Service and the land managing agencies. This cooperation will be necessary to make the best use of opportunities for demonstration of land management principles and procedures. There will also be greater opportunity for exchange of information between Extension workers, research people, and land managers. We will all need to keep abreast of new knowledge and developments in the field of land management.

As the intensity of management on the public lands increases, we in the public agencies will, more than ever, need the cooperation of grazing permittees and other users if our management programs are to be effective. Farm and ranch operators will also need to make the most effective use of information and knowledge gained through research programs and on-the-ground experience of land managing agencies if crop and livestock production is to compete successfully with other land uses. It seems to me there will be ever increasing opportunities for your Extension Livestock and Range Management specialists to aid in promoting better management on both private and public lands. You, as well as the range users, should be aware of our management and improvement programs, the kinds of management or improvement practices needed on the public lands and how these will or can be made to complement use of base ranches. You should also be aware of why adjustments in public land use may be needed in local areas and how these adjustments are to be made so that together with the ranch operators we can determine how impacts of necessary adjustments can be minimized.

Examples of the kinds of problems and areas where we feel Extension people can be of assistance to the Forest Service at the present time are in our National Grassland program and in helping to promote a better understanding of the need for and problems in integrating grazing and recreation on both the National Forests and National Grasslands.

I mentioned that, under Title III of the Bankhead-Jones Farm Tenant Act, the Chief of the Forest Service is charged by the Secretary of Agriculture with developing policies and procedures for management of the Federally-owned lands within the National Grasslands which will exert a favorable influence for securing sound land conservation practices on associated private lands. Because of the intermingled pattern of public and private lands within the National Grasslands, it is appropriate that our administrative and management programs be aimed at promoting the conservation, improvement, and sustained use of both public and private lands. However, our programs should be correlated with your Extension programs and the needs of private landowners if they are to provide maximum benefits. Since the Extension Service has primary responsibility for securing desirable management and conservation practices on private lands, your people are in a position to know the types of practices needed and to see how our programs can best meet these needs. You are also in a position to exert a favorable influence on the way ranchers use



both their private grazing lands and the National Grasslands. Because of this we feel there is an opportunity for mutual assistance in furthering the programs of both agencies.

A second area where we think there is an opportunity for mutual assistance is in promoting a better understanding of the need for and problems in integrating land uses. Under principles of multiple use we are attempting to manage our lands for all uses rather than setting aside areas for a particular type of use. In the case of grazing and recreation, conflicts occur most frequently around campgrounds or picnic sites located near meadows or streams where both recreation and grazing pressures are heavy. The easy way to eliminate conflicts is to fence out these areas and essentially zone them for exclusive recreation use. Although this may be necessary in some cases we feel that, with proper livestock management, i.e., deferred grazing use until after the normal recreation season, grazing pressures on most campgrounds and picnic sites can be minimized and both uses can be harmonized.

Conflicts between grazing and recreation also occur on wilderness areas where recreation is more dispersed. To date these conflicts have largely been the result of recreationists observing the effects of heavy livestock use and deteriorated range conditions along stock driveways and trails. We are attempting to reduce the impacts of this type of use and, in some cases, livestock associations and our permittees are taking the initiative to eliminate these conflicts. In other instances, grazing permittees do not fully understand or realize the need for better livestock management if grazing is to continue on these areas in the face of increasing recreation pressures. This is where we need to do a better job of explaining our programs. If Extension Specialists are aware of our objectives in management of these areas, we feel they will understand the need for our programs and will be in a position to assist both Forest Service people and our range users in working out solutions to problems of integrating recreation and livestock use.

In summary, the Forest Service is attempting to meet increasing recreation pressures through the integration of land uses and more intensive land use. We do not foresee any major changes in our basic policies as a result of recreation pressures. The National Forests and National Grasslands will continue to be managed under principles of multiple use with the objective of providing high-level sustained use and benefits from all resources. The increasing intensity of use and management will require even greater cooperation from our users than we have enjoyed in the past and will provide greater opportunities for the Forest Service and Extension Service to be of mutual assistance in promoting the programs of both agencies.

ooOoo





## AGRICULTURAL EXTENSION PROGRAMS AND WILDLIFE MANAGEMENT IN COLORADO 1/

The opportunity to appear on the program of the Western Extension Livestock and Range Management Specialists' Conference is most certainly welcomed. Recreational demands on public lands and the possible effects to extension programs is not only a timely topic for discussion but one which touches many people in different walks of life. The term "human population explosion" is currently popular and is used freely when justifying the size, growth, and cost of any project or program nowadays. I shall dispense with it by saying that we in game, fish and parks management recognize that it is here and that we "ain't seen nothing yet."

### Hunting Pressure and Harvest

Big game hunters, particularly from out of State have increased steadily the past ten to fifteen years. In 1963 a record number of hunters, over 165,000, sought deer, elk, and bear in Colorado. The harvest of these game animals surpassed other years - 147,848 mule deer and 12,120 elk were bagged by the hunters.

California provided the highest number of non-resident hunters with over 17,000; Texas was second with 12,515 hunters; Oklahoma, Missouri, and Kansas ranked next in that order. Colorado hunters from Denver numbered nearly 20,000 with El Paso, Jefferson, Mesa, and Arapahoe counties following with 6,000 to 8,000 hunters each. These numbers of people do not seem unduly high in comparison with some of the eastern and northern States that field over 500,000 hunters in a season. The trend of increased visitors to Colorado however gives sufficient reason for us to think about where and when the levelling-off point might be.

We are striving to maintain a sustained yield of game animals. This might provide a reasonably satisfactory success ratio to be enjoyed by hunters. The over-riding consideration in this effort however is not satisfying the hunter nor selling licenses. Many people don't and won't believe this. The basic concept of all our big game management is to keep the herds consistent with available food supply, especially on winter ranges. This isn't easy.

### Range Studies

The department has been and is continuing to conduct range research studies in different areas of the State. Experimental pasture studies at the Little Hills station southwest of Meeker have been carried out for over 12 years. Here is an example that demonstrates that combined use of a range by livestock and game is not detrimental to the forage, providing proper numbers of each class of animal are adhered to during the grazing season. Admittedly the numbers are controlled under experimental conditions, but the weather isn't. The circumstances may be rigid but not impossible.

Four years ago our department in cooperation with the U. S. Forest Service and the Bureau of Land Management initiated a game range analysis procedure for all major deer and elk ranges in the State. Briefly the procedure consists of "reading" transects twice each year, once at the end of the growing season to get plant growth and again in the spring to obtain winter utilization. Wildlife conservation

---

1/ Presented by Robert R. Elliott, Colorado Game, Fish and Parks Department, at the Western Extension Livestock and Range Management Specialists Conference, Colorado State University, Fort Collins, Colorado, July 8-10, 1964.

officers and district forest rangers or district range managers (depending on location of transects on forest or BLM) examine the range conditions together. Differences in viewpoint are usually worked out on the ground. The information gained is used in formulating recommendations for big game seasons. This type of cooperative field work has done a great deal for the men in all three agencies, particularly in their thinking about how much grazing the ranges will support, from both livestock and game animals.

Other range studies have been accomplished under cooperative projects with the Cooperative Wildlife Research Unit and the Range Management Division at Colorado State University. A cooperative study of the deer herd in and around Dinosaur National Monument has been initiated just recently also.

Probably one of the most controversial areas between our department and land managing agencies is that of brush removal. Most of the big game animals depend on browse species for survival. When this type of native vegetation is removed in large blocks, the effects on game animals can be serious. We do not argue that all brush removal categorically is harmful to game. When spraying, railing, plowing, etc., is done in a strip or random block pattern the losses to game are minimized and there are possibilities that better forage species will replace the ones taken out. Our primary concern is with the extensive sagebrush spraying programs. There is much that is not known presently about the ecology of an area so treated, especially the interrelationships of the animals using the area. One point is clear however - big game ranges in Colorado are decreasing - and the demands for use of land for purposes other than hunting will definitely influence the habits of the recreation-seeking public.

#### Game Damage Problems

Another issue of some controversy is damage to crops and other real property by protected wild animals. State law requires us to pay these damage claims and this must be considered not only in our game management programs, but in the budget as well. At the June meeting of the Game, Fish and Parks Commission we asked approval of a special pre-season for deer on certain designated ranches in order to alleviate damage problems. The season may not be successful, but we are trying all reasonable means available to us in an attempt to give these ranchers assistance.

In a year of normal weather conditions, we pay from \$12,000 - \$20,000 in damage awards. We actually spend more than that on damage prevention and control measures. During a season of severe winter conditions, the claims jump to twice or three times that amount. All claims, properly filed, are investigated by department field men and presented to the Commission for approval or denial. It is difficult if not actually impossible for us to predict what the turn of events may be regarding game damage as recreational pressures mount.

#### Upland Game Management

Although this conference is concerned primarily with livestock and range extension programs, we feel our game bird management is vitally involved in agricultural extension endeavors on farmland. This is particularly applicable to pheasant management.

Provision of cover, mostly for nesting, is of prime importance for a huntable pheasant population. When this cover is burned, sprayed, plowed under or otherwise destroyed during the nesting period (late April through mid-June) there will



be few birds to shoot at in the fall. By check station tally nearly 85% of the pheasants shot during the season are young of the year.

The department is currently engaged in two attempts to provide more and better pheasant nesting cover. One is a voluntary effort from the landowner to set aside a small tract of land and sow it with grass and legume seed furnished by the department. The other movement has been initiated by farmers in northeastern Colorado proposing to establish a wildlife conservation practice in the federal farm program that will be more meaningful and beneficial than those of past years. This plan is designed to pay participating costs for planting wildlife cover on a three year rotational basis. Cost-share payments would equal those established by the U.S.D.A. for the wheat and feed grain programs.

A very realistic aspect of pheasant management also is to obtain an adequate harvest of birds through hunting seasons. To accomplish this private land should be opened to hunting, and definite education and information, reasonable regulation, and prudent enforcement must be done.

#### Parks, Land Acquisition, and Taxes

With the merger of the Parks and Recreation Department and the Game and Fish Department a year ago came additional responsibilities and problems - monumental problems. No one will deny that Colorado is far behind the times in developing a State parks system. This pressure has already enveloped us with frustrating suddenness. Along with hunting and fishing programs, the parks development calls for acquisition of land, rights-of-way, leases, etc., and on public lands there will continue to be requests for withdrawals for recreational purposes and applications for special use permits.

The matter of paying taxes on lands purchased by the department is continuously debated by both informed and uninformed persons. Until about two years ago the department paid special school fees in lieu of taxes. An injunction was filed to restrain the Commission and department from paying these fees because the plaintiffs charged that such payment by a State agency was unconstitutional. The district court ruled in favor of the plaintiffs and the restraining order was issued. Again it is most uncertain as to the course this tax problem will take in coming years.

#### Recommendations

To say that recreational pressures are increasing in Colorado would be an understatement. We have discussed only a few of the problems our department is facing in this matter, and then only superficially. If we review the main topics presented here - big game and range management problems, pheasant management and farming practices, and even the land acquisition and taxation involvements - it appears that most of these programs lend themselves to some coordination with existing or planned Cooperative Extension Service programs. The coordination or cooperation may be in greater or lesser degrees, depending upon the project, but there is definitely an area here for getting a little closer together for an improved stand on meeting and solving some of the difficulties brought about by public demands.

One recommendation that is almost unanimous within our department is to have an extension wildlife management specialist position established on the staff of the Cooperative Extension Service. This proposal is not new nor original, of course.

Last year when preparing our budget requests, we included \$10,000 to help set up a wildlife extension program in Colorado. Although this particular item and the money were cut by the legislature, we are confident that together with the extension service and with a realistic program we should be able to convince our legislators that this would be money well spent.

Extension programs and wildlife management can be compatible. If we are to meet the recreational pressures and handle them successfully, our efforts must be compatible.

ooOoo



RECREATIONAL PRESSURES ON PUBLIC LANDS AND THEIR  
POSSIBLE EFFECTS ON EXTENSION LIVESTOCK  
AND RANGE MANAGEMENT PROGRAMS 1/

Experts in land management estimate there are 100 people in the West today for every one in pioneer times. One of the results of this population growth is pressure of use on the western lands, and particularly so in the case of public lands. The pressure there is for recreation. The entire population of our country is mobile. It has plenty of time to look around for recreation.

And this pressure probably has the greatest impact on grazing lands. And as a matter of fact the pressure has already been felt by many stockmen who have had severe federal allotment cuts that have worked great hardships on them. Their businesses and livelihood have had to give way to recreation. The federal land administrators of course represent all users or desirers of the federal land and therefore have had to "give" where the pressure is the greatest.

But even so, the Forest Service and the Bureau of Land Management have said they do not want nor plan to discontinue grazing of livestock on the federal lands. They have said repeatedly that grazing will always be an important use of federal land.

So the livestock permittee is up against the problem of finding a way to continue his operation in spite of the pressure for more water for recreation, more game and fish for recreation, and even more land for cities, roads, camp grounds, and other public uses. In other words, the livestock permittee is up against the problem of finding a way to continue the multiple-use principle--to continue to be an important use in the multiple uses.

I think the stockman has the right to assume that it would be unwise economically not to get the maximum yields from the federal land he uses. Certainly the owner of private land would want maximum yields from it. And since it has been demonstrated that productive range use by livestock is not necessarily incompatible with recreation in its various forms, the stockman feels that continued emphasis should be placed on the productive use of the country's federal grass resources.

If this premise is logical, it will require, in my opinion, the cooperation of federal land administrators, range users, and range and livestock experts in doing all possible to manage the land and livestock so that livestock harvesting of the grass on our federal ranges can continue in face of the growing pressure of recreational use.

A good example of cooperation that has resulted in better and more productive use of our federal land resources is seen in the cooperative rotation-deferred grazing experiments that the Forest Service and stockman have been carrying out in the Mule Park area in Colorado. Similar cooperative plans are also in effect in other States and also under Bureau of Land Management administration.

These experimental areas have demonstrated the value of new techniques in land management and have demonstrated the value of cooperation.

---

1/ Presented by Dave Appleton, Editor, American Cattle Producer, at the Western Extension Livestock and Range Management Specialists Conference, Colorado State University, Fort Collins, Colorado, July 8-10, 1964.

I have termed them experiments. Actually, they have gone along far enough now that they are past the experimental stage and actually are good, solid management programs that are working for both stockmen and administrators in increasing allotted numbers and improving ranges. A report in 1961 on the Mule Park demonstration made by a forest ranger said that "Over-all, the allotment is improving. Mule Park is proving a valuable demonstration."

This particular technique will not of course accommodate itself to every federal land area, but I believe it shows the way to progress.

In this cooperation, the administrators can be complimented for trying out new management tools first instead of curing a range problem simply by making reductions in livestock permitted to graze on the allotment. This, it seems to me, should be the rule--that all applicable management procedures should be utilized before permanent cuts are made.

It might be noted that this cooperation started at a time when there was considerable friction between administrators and users. With the "friction" lessened now, the road to cooperation should be more easily travelled.

Another form of cooperation in which the livestock industry and the administrators have benefited is seen, I believe, in the development in the past few years of annual midsummer meetings of the American National Cattlemen's Association committees on public lands and on national forests with Bureau of Land Management officials and Forest Service officials.

It usually happens at such meetings that the federal officials will report on their reaction to the association's resolutions concerning federal lands which were passed at the association's latest annual meeting. The officials will report on what they have done or have not done with respect to each resolution affecting their department. The stockmen, on their part, will have an opportunity to report on current federal land problems.

This kind of contact between user representatives and administrators of federal lands, we believe, makes for better understanding. It might be a good idea if such meetings could be held on the State level.

There is still conflict between the federal land users and the administrators of that land, but there surely is not so much of it as there used to be. Issues or differences are not necessarily all black or all white. Often there is room for further discussion, and understanding is furthered when situations are openly and cooperatively discussed.

It should be remembered that federal grazing land is not just public land, a thing apart from private land to be treated as such. Actually, as far as the livestock industry is concerned, its private land is often tied to the use of public land and the privately owned portion might be practically valueless without this tie.

Nor is the stockman the only one involved. Thousands of communities and businesses are dependent upon this tie-in of private and federal land. The tax base of the areas involved is also dependent upon this tie-in.

Continued successful use of the federal lands under multiple use will be helped, we believe, under the bill known as HR 8070, which calls for a commission to be set up to study the whole public lands legal and administrative set-up. The general broad purpose of the review is to point up inconsistencies, duplications,



dead timber in the laws and regulations that may have accumulated over the years, and generally to up-date the public land system.

This does not mean that many of the laws now on the books are not good laws, such as the Taylor Grazing Act, which it has been said, has the distinction of creating the only major land reform in the world that has been accomplished without strife and bloodshed.

To conclude on a note about recreation: Even with the pressure on western lands from recreation, one of the problems of recreation for the public is that there are not sufficient areas of recreation close to big centers of population. The report of the recent commission that reviewed the problem of outdoor recreation pointed this out and urged establishment of such centers of recreation close to centers of population. But even out here in the West, there are recreation areas that could serve greater numbers, and perhaps emphasis should be put on the advantage to land-owners who are in the proper position to develop commercial enterprises for recreation on their places to augment their income.

Finally, just as stockmen must rely on more research and better management for continued operation, rather than on more land, which is not available, so should those seeking more recreation approach their problem with an eye to efficiency. They should study the problem of more intensive use of smaller areas, more use of areas closer to population centers, and continued and proper use of private lands for recreation.

Your interest in the population pressure problem that is bearing down on the livestock industry is of course shown in the very fact of this program. I believe the stockmen know and believe as you do that success is linked with the cooperation of both range specialists and livestock specialists in today's growing of livestock.

ooOoo





## THE WILDLAND COMMODITY OF CALIFORNIA RANCHES 1/

The Agricultural Extension Service in California has already begun a teaching program to assist ranchers in the improvement and sale of the outdoor recreation values of their lands.

The deer hunting, fishing, places for riding or hiking, etc., are products of the land, a part of agriculture and should be a part of our program. The livestock ranchers we do business with are a relatively difficult group to contact and communicate with, as compared with other closely knit, highly technical groups such as the California rice growers. However, the range and livestock specialists and range and livestock agents are in contact with the ranchers and can communicate with the ranchers better than anyone else. Therefore, we are in a key position to supply the facts and information these ranch owners want and should have.

Let's take a look at what Agricultural Extension is already doing. A cattleman, Mr. Conway, from the Sierra foothill county about 50 miles northeast of Sacramento has cleared brush from 800 acres of hill land and planted grasses and legumes for pasture. This is quail country and Mr. Conway very carefully left some of the brush and some of the brushpiles for quail. Livestock and Range Farm Advisor, Bill Helphinstine, and Mr. Conway worked together on the planning and execution of this entire project. There were things to be learned along the way. What is the best roosting tree, nesting cover, flushing cover, how far apart should water be? Watering stations were even built for the quail. Ideal environment for quail and quail hunting was created right along with improved pasture production. Trespass rights to hunt quail were sold for several dollars per acre.

Farm Advisor Helphinstine and Farm Advisor Johnson from the next county held a bi-county cattlemen's meeting at the Conway Ranch. Most of the day-long program was about range improvement for quail as well as cattle and about making money from quail.

Farm Advisor Helphinstine prepared a county leaflet entitled "Let Quail Help Pay Your Taxes". Other county Farm Advisors have followed suit.

Livestock Specialist Reub Albaugh, Range and Pasture Specialist Jim Street and Wildlife Management Specialist Maynard Cummings teamed up on a Farm Advisor Training Conference at the Conway Ranch. Subject matter was production and marketing of grass, cattle and quail. The 25 or 30 in attendance were all range and livestock Farm Advisors.

The Central California Brush Range Improvement Committee has requested Mr. Conway to be on the program of their annual winter meeting. Most of the program will be about outdoor recreation. This C.C.B.R.I. Committee is a working organization of central California hill ranchers and they mean business.

A panel on wildland utilization was organized for the 1963 California Woolgrowers Convention. Range improvement leader Dr. R. M. Love, Chairman of Department of

---

1/ Presented by Jim Street, Extension Range Management Specialist, University of California, with assistance in preparation by Vic Osterli, Extension Range Management Specialist, University of California, at the Western Extension Livestock and Range Management Specialists Conference, Colorado State University, Fort Collins, Colorado, July 8-10, 1964.

Agronomy, University of California was moderator. The panel was made up of a leader of organized sportsmen in California, a game manager from California Department of Fish and Game, Director of the California Department of Natural Resources, a leading cattleman and an Extension Range Specialist. Comments were very favorable.

By request of the respective program committees Range Improvement Specialist Vic Osterli summarized the material presented by the panel and presented papers dealing with utilization of our wildland commodity at the following conventions: American Society of Range Management in Wichita, American Society of Agronomy in Denver and Western Section of Crop Science Society in Tucson.

In California the job of Agricultural Extension is off campus teaching of agriculture to all the people of the State. We feel a responsibility for teaching the principles of wildland management to all the people. Several Farm Advisors have held Wildland Educational Conferences. Successful programs attended by many of the right people have been the result of careful planning. All interests were considered. The Farm Advisor as well as others from the University, from other agencies and from interested organizations were on the program.

Vic Osterli prepared a visual aid chart series for use by Farm Advisors. In addition color slides were made of the charts. It is expected these slides will be used in presenting material to ranchers groups and also to service clubs and to others. Farm Advisors are expected to edit and rearrange the prepared slides, charts and guide and interject a great deal of their own material to present information appropriate for the occasion. Ranchers and others are thus informed of income opportunities, improvement of product, considerations of market and competition, methods of selling, dealing with people, laws and liability that might pertain, estimates of prices, other sources of information, benefits and pitfalls.

In many cases, the right to trespass appears to be the item actually sold. Those who buy this trespass right will guard it carefully. Very often one of the first attractions for a rancher to sell trespass rights is for the control of trespass. The man who pays for the opportunity to hunt will keep out the trespasser.

People are searching for a spot to hunt, fish, ride, etc. In California they are willing to pay well for the right of entry to property and opportunity to enjoy the outdoors.

Our teaching program in outdoor recreation has not been 100% welcome. With any endeavor complete approval is rare. The slide set mentioned earlier was introduced to about 30 Farm Advisors at a livestock and range training conference. It was received with some cat calls and heated question but earnest and sincere discussion by others. In a very few months the slides and charts have been used by Farm Advisors on several occasions.

Ranchers are seeking from the University information on producing and selling their outdoors. For every 10 that receive information from us there are probably 100 or more that have questions but haven't asked. And unfortunately there are probably some that have been turned away.

As Livestock and Range Specialists we are in a key position to team up with Wildlife Specialists and many others to help our Farm Advisors point out economic opportunities to their clientele.



## INTERDISCIPLINARY ACTION IN FORMULATING LIVESTOCK AND RANGE PROGRAMS 1/

Someone has said, "We learn neither by doing or thinking alone, but by thinking about what we do." If this axiom is true, I would judge that there is a lot of learning taking place during this workshop. There is nothing like cross-fertilization of ideas to stimulate creative thinking, clarify our concepts and help us chart our path into the future.

Out of a clear sky, a flash of inspiration suddenly strikes you. Electric impulses begin discharging somewhere beneath your skull. Your nervous system becomes excited. Your adrenal glands are stimulated and adrenalin begins to flow. You have given birth to an idea.

How many of you in this room have experienced this sensation recently? If so, did you follow up the idea with action? It is a human failing to go through moments of inspiration, periodically, which should motivate us to try a fresh approach to solving our problems, only to slip back into the comfortable routine of things without giving it a try. Having an idea is simple indeed compared with getting something done about it. The brilliant idea which appeared so logical and fool-proof when we first thought of it, too often becomes full of holes and obstacles when we share it with others. These are the facts of life. As extension workers we are salesmen. Ideas are our stock in trade. A mark of the successful extension specialist is his ability to create new ideas that are sound and his skill in getting them accepted. This is no easy task. Yet the future of the cooperative extension movement may well rest on how well we adjust our thinking and actions to the changing times.

The purpose of this panel presentation is to stimulate discussion and ideas on interdisciplinary development and execution of programs concerning the livestock industry and related interests. The remarks of the panel members are intended to raise questions for your consideration as well as express some ideas based on the various experiences of the participants. We do not expect you to agree with everything which will be said. Neither would we want you to accept everything on face value. Productive discussion and new worthwhile ideas are born out of controversy.

Some of you may wonder why your program committee selected this topic of interdisciplinary action in formulating programs. It has been a favorite subject for discussion at many workshops over the past two or three years. Project III Leaders from most of the States spent several days at Purdue University last October exploring this area. On the surface, it sounds simple indeed. We have been practicing it in one form or another for years. Yet like many other operations, it presents problems and complexities when we attempt to involve a large staff in its application.

Some of the stumbling blocks encountered are differing personalities, fear of losing personal identity, traditionalism, lack of give and take, and inexperience in teamwork techniques.

However, our observation nationally is that significant progress has and is being

---

1/ Presented by Charles E. Bell, Jr., Director, Division, of Agricultural Science, Technology and Management, Federal Extension Service, USDA, Washington, D. C., at Western Extension Livestock and Range Management Specialists Conference, Colorado State University, Fort Collins, Colorado, July 8-10, 1964.

made towards achieving coordinated interdisciplinary extension program action since the reorganization of production and management specialists under Project III. This is being reflected more and more in the State Plans of Work which come to our office for review. We hope that you will take advantage of the session this morning to bring up problems, as well as ideas that work, for discussion by the entire group.

The first question one might ask is "Why are we placing so much emphasis on this approach to problem solving?" We all recognize that successful farm and ranch operations today involve the commitment of large amounts of capital and high degrees of risk. The complexity of technology required and the economic environment livestock producers must operate in complicates decision-making. The many interrelated factors involved in adapting technology to an individual situation further complicates the picture. An unwise decision can mean severe losses and even business failure for the rancher or feeder. This has real implications for the extension specialist as to the accuracy and soundness of information he disseminates.

In addition to concern with the mounting complexity of knowledge and interrelationships involved in performing our educational role, we frequently experience frustration in discovering that in solving one problem by the use of a technological development we have created new problems which must also be dealt with. Too often these new problems are even more complex than the old ones. They not only raise new questions for research but frequently have far-reaching economic implications. Consequently, extension specialists are not only having to broaden their own perspective and essential considerations, but are finding it necessary to acquire greater depth of knowledge in their subject matter area. This makes it increasingly necessary to involve other specialists in the development of programs in their own field.

The first consideration in effective problem solving is identification of the real root of the problem. Too often we confuse symptoms with basic causes. If sufficient analysis of the situation is made initially by joint effort of many disciplines, many unforeseen problems may be avoided. Frequently, a specialist in what might appear to be a totally unrelated subject matter field can spot an important factor that must be considered if the program is to succeed. Being well versed in his specific subject matter, he would be aware of influences that other specialists would overlook. When involved in the planning process, he develops a sense of belonging to the team. He feels a personal interest in the project and enthusiastically participates, instead of looking upon calls for assistance as "pulling other people's chestnuts out of the fire." Failure to observe this principle not only weakens the effectiveness of a specialist and creates needless problems for him, but can lead to eventual strained or even alienated relationships with other staff members. Someone has said "Cooperation is not a sentiment, it is an economic necessity."

Once we have identified and understood the real problem, we must clearly define our objective if our coordinated efforts are to be effective. This may sound like a trite statement, but it has been my observation that Project III staffs have more difficulty in preparing concise meaningful educational objectives than in any other phase of the programming process. It takes a lot of mental gymnastics to come up with a statement that insures good communication. It is a poor alibi to have to admit that "we lost sight of our objectives so we doubled our efforts."

One of the encouraging observations noted in the State staffs and in our own Division in the Federal office results from the combining of production and farm management specialists under Project III. It has created a favorable climate for



closer working relationships between these two groups. Application of new technology in enterprises today must be considered in the context of its economic feasibility and its relation to the total farm or ranch operation.

Farmers and ranchers expect extension workers to provide them with this information in order that they may make sound decisions. They need the whole picture in order to consider the essential interrelated factors. A closely knit production-management specialist team can greatly strengthen Extension's effectiveness in meeting this need. This work will need to be closely coordinated with the staff assigned to other projects, especially the marketing personnel in Project IV. Where appropriate, they should be involved in the team effort.

The team approach on a problem basis has flexibility that permits constitution of the team or task force to fit the needs of a specific situation. I wonder sometimes if we have fully developed the potential which this flexibility offers for more effective program action. Extension cannot carry out its educational mission in a vacuum. We have always worked with and through other groups. Yet, have we involved them as much as we should in the program development process? Would not the total effort be more productive if the services of competent scientists from other branches of the University system were included in the planning process? Can Extension achieve coordinated interdisciplinary program action without the active support and participation of the corresponding University Departments? What about the role of appropriate specialists from industries concerned? Would a coordinated educational effort representing the best combined judgment of all available competencies within and outside of the University best serve the needs of the commercial rancher or farmer? It seems to me that Extension is uniquely qualified to assume this type of leadership role.

Does the current curricula for graduate students prepare extension specialists for coordinated interdisciplinary program action? Should provision be made for seminars on broad problems with each student making his subject matter contribution? These are just some ideas and thoughts I would like to toss out for possible discussion later in the morning.

The great need in Extension as well as in other segments of our great University systems is creative ideas, open-mindedness and a determination to explore better ways to get the job done in a changing world. Resistance to change is a natural human trait. We feel comfortable and secure when involved in something that we are well versed in. New ideas are often potential threats to the established order of things. Rapid changes in agricultural technology make it impossible to establish a set routine and yet serve such a dynamic industry. These changes in needs and the challenges they present are what make Extension work so exhilarating. This is the stimulus for human progress. Mankind has survived and mastered his environment because of his ability to change with the situation. Interdisciplinary teamwork properly conducted can equip Extension to meet the challenges and opportunities of a changing agricultural economy.

I am pleased to present the panel of four men who have distinguished themselves in different fields of work. Each will discuss the topic from the viewpoint of his experiences in interdisciplinary action.





## INTERDISCIPLINARY ACTION IN FORMULATING LIVESTOCK AND RANGE PROGRAMS 1/

The topic for this morning's panel is by no means a new subject. New titles often imply new subject matter, but it would appear there has always been an attempt to coordinate and broaden livestock programs in your service. No doubt the ultimate has not been reached. In reviewing several proceedings of conferences similar to this, I note that the topic has previously been discussed. I'm sure you have read all this material, for I know you have such a small amount of reading material come across your desks.

Being somewhat an outsider with this group has many disadvantages, but I'm honored to be a member of the panel. There are some advantages on the other hand, because I can plead ignorance if I step out of line and, too, I hope to present some food for thought from a slightly different viewpoint. To do this, let's stay in an area with which I am familiar and try to relate topics and incidents from within an Animal Science Division to the subject at hand.

Each State has its own peculiarities, as will each program for discussion. No set rules will fit all situations. There are some generalities that will usually make guide lines, however. A few that fit here are:

1. A program is no better than the individuals that plan and execute such. Each of us have certain attributes, areas of speciality, and know how, and synonymous with this, all sorts of limitations. Don't plan beyond the area of accomplishment!! Limits are set by personnel, facilities, area, cooperation, knowledge, and time.
2. Plan a program on present and future needs, not past mistakes. Too often stations initiate research that has already been accomplished. Or attempts are made to prove or disprove someone else's work. Why duplicate? If necessary to extend work on a program, shoot from another position. Maybe this point perhaps applies more to research than extension programing but has merit for consideration.
3. Plan a program to completion. If all programs initiated have reached completion, there would be volumes of information yet to review. Regardless of leadership agreement with the results, there is some good in everything that is attempted if carried to completion. Proper planning helps considerably in this respect. But, as you know, Murphy's law is always with us, and as Murphy stated, "If anything can go wrong--it will."

These guide lines are by no means faultless or letter perfect, for there are many pitfalls from start to finish. Ideas that could help fulfill these objectives should be discussed.

Admittedly many programs are initiated and grow like topsy. For success, a program needs sound planning. County and State advisor stockman, industry and/or agricultural consultants can be a big help determining needs but can be harmful if left to direct the entire program. The same can be said of Washington, with

---

1/ Presented by Paul O. Stratton, Division of Animal Science, University of Wyoming, Laramie, at the Western Extension Livestock and Range Management Specialists Conference, Colorado State University, Fort Collins, Colorado, July 8-10, 1964.

special emphasis on the latter. Agents are a necessity in developing any program, for success depends a great deal upon the execution of any given plan. Their consideration and interest are a must. The concept of interdisciplinary programing is good, but I hasten to suggest that you consider these suggestions.

First, a program must have a leader, individually you must accept this responsibility. Careful consideration should be given to the selection of a group planning committee. It is generally true that two heads are better than one, but remember that too many cooks can spoil the stew.

Select only those staff or advisory personnel that you, as leader, feel can contribute to the program from the standpoint of knowledge, interest, and time. Superimposed ideas upon a sound program from an outsider on the spur of the moment, without consideration of end result and completion, will usually be more harmful than helpful.

Second, planning should be initiated at home base. This can be area, county, or institution, but certainly not at a single location of execution before a goal has been established. I am sincere when I suggest that a planning committee of two or three car loads converging on a single rancher will either antagonize or frighten him or his neighbors to complete defeat of any given program. Plans should be finalized as much as possible at home. Only key personnel should be present for initiation of a program at a specific location.

Problems will be minimized if programs are selected upon need and abilities within your capacity. One or two well planned programs will generally be most productive because that is the limit of most extension staff in the west. Your time should not be scheduled to its maximum on programs, for there will always be special requests on your time as the year progresses. On the other hand your schedule, assigned to a program, should not be hampered by other requests, for example, administrative whims. Administrators should be made cognizant of this point.

Finally, the major objectives of a program are results and progress. The importance of completion cannot be over emphasized. Rather than revision of a program, I would suggest completion and distribution of results to fellow specialists and the initiation of a new program based on previous results rather than continual adding and subtracting.

ooOoo



## INTERDISCIPLINARY ACTION IN FORMULATING LIVESTOCK AND RANGE PROGRAMS 1/

Interdisciplinary action in formulating livestock and range programs is an accepted practice in California. Initial program planning by Extension both from the State and county level is in close consultation with the appropriate disciplines within Extension and the experiment station; thus, laying the groundwork for team action in the execution of a project. The experiment station, in turn, includes Extension in the development of their field research programs. It is a rare exception in which the experiment station does not work directly with the specialists and the farm advisor in any or all field research or other programs conducted throughout the State. It should perhaps be mentioned here that one fundamental reason for this close cooperation is the fact that county staffs are relatively large and constitute a fairly high degree of specialization on the part of county personnel as well as the specialist staff at the State level.

This approach was an early development in California and the basic concept has been built on the following:

1. A recognition both by Extension and the experiment station of the broad problems and the resources within the University as well as other agencies which may be brought into active participation in solving time.
2. Through close cooperation, a genuine interest and acceptance of the team approach concept have been developed by the disciplines and other agencies involved.
3. Active leadership by Extension in plan development and the acceptance of responsibility for action by appropriate disciplines have been followed.
4. Appropriate personal recognition of participation by cooperating disciplines and agencies at all times and particularly in reporting of field trials and programs.

The following examples will serve to illustrate some areas of cooperative action and the contribution by various disciplines involved in planning and execution of programs.

1. Range Improvement. This program involves many projects including brush control, reseeding, fertilization and the utilization of improved areas by livestock. The range management specialists have assumed leadership in this program. The department of agronomy has contributed to the plant breeding and variety recommendations; the school of forestry has assisted in brush control, particularly in controlled burns and in general forest cover management. Departments of soils and plant nutrition contribute with soil surveys, soil analyses, and fertilizer trials. Animal husbandry cooperates in the management of livestock for measuring improved forage production. Agencies outside of the University include the division of forestry and the U. S. forest service which also have provided assistance particularly in the area of controlled burns and long-term forest management.

---

1/ Presented by Horace T. Strong, Extension Animal Husbandman, University of California, Davis, at the Western Extension Livestock and Range Management Specialists Conference, Colorado State University, Fort Collins, Colorado, July 8-10, 1964.

2. Multiple Land Use. Problems in this area are of fairly recent origin, but many disciplines and agencies are actively engaged in developing a program for the solution of these difficult problems. The problems in this area are largely the result of population expansion which greatly increases the demand for recreational areas. Land owners are reluctant to accept the situation and to explore possible solutions of mutual benefit. Disciplines involved include the department of forestry, wild life management, animal husbandry, agricultural economics. Agencies outside of the University include the departments of fish and game and public health.
3. General Livestock. Field research trials in cattle feeding, progeny testing for carcass studies as well as numerous special problems bring together many disciplines for solution. Included are animal husbandry, veterinary medicine, food technology, agricultural engineering, agricultural economics and the U.S. meat grading service.
4. Agricultural Sanitation. The disposal of livestock wastes in another program development involving wide interdisciplinary action. Urban growth extending into the livestock production and feeding areas has created problems of flies, dust and odor. In addition, the use of commercial fertilizers has greatly reduced the demand for manure for crop land use. A committee of staff members from entomology, agricultural engineering, agronomy, soils, animal husbandry, agricultural economics and State agencies, such as sanitation and health departments, is actively engaged in solving the problems in this field.
5. County Personnel Training. Extension specialists and departmental disciplines actively cooperate in the development of programs for inservice training of county personnel.

In summary, interdisciplinary action is an accepted procedure of program planning by Extension and the experiment station in California. We feel that we have been quite successful in this approach. We recognize, however, that we will need to continually emphasize the importance of this type of cooperation in order to maintain a position of leadership in our changing, present-day, technical agriculture.

ooOoo



INTERDISCIPLINARY ACTION IN FORMULATING LIVESTOCK AND RANGE PROGRAMS  
AS VIEWED BY AN AGRICULTURAL PROGRAMS LEADER 1/

Is the specific topic for my formal presentation on your symposium dealing with this topic.

To give you a little understanding of the perspective and climate from which I view this topic, I think it advisable to review the broad, general responsibilities of my position as Agricultural Programs Leader. I will quote directly from two sections of my job description.

"Exercises direct supervisory authority over all subject-matter specialists in agriculture and related fields, including responsibility for review of content, direction and execution of the programs of these specialists."

Further:

"Coordinates the talents and activities of the subject-matter specialists in assisting county staffs to achieve the fullest and most effective educational programs related to the problems of:

- a. Agricultural Production, Management, and Natural Resource Use.
- b. Marketing and Utilization of Agricultural Products.
- c. Community Development and Public Affairs."

To me, this is by far the most significant section of the job description. The interdisciplinary approach concept is also certainly crystal clear.

We will be using and encountering quite a number of words and terms in this symposium and consequently definitions of some words and terms in extension language may be appropriate.

One such word is coordinate or coordination. A definition I like is, "a condition in which efforts are harmoniously directed toward defined common program development objectives with each person knowing his function in relation to that of the others who are involved."

Really, it seems to me, this not only defines coordination, but also states one of the objectives of interdisciplinary action.

This definition referred to program development. Our over-all topic is program formulation, but I think the two are synonymous and a pretty good definition of program development is: "a continuous series of processes which includes planning a program, preparing a plan of work and teaching plans, taking action to carry-out the plans and determining accomplishments."

---

1/ Presented by Carl Herzman, Agricultural Programs Leader, Colorado State University, at the Western Extension Livestock and Range Management Specialists Conference, Colorado State University, Fort Collins, Colorado, July 8-10, 1964.

Now let's look specifically at this interdisciplinary approach. And here we are referring to, according to the dictionary, "between branches of knowledge," but in our concept "the mixing and blending of the appropriate branches of knowledge to achieve the desired results."

First is the matter of objectives. We have already hinted at some broad objectives both in defining coordination and defining interdisciplinary approach. Objectives can be further refined and specified, however, if we look at them from the viewpoint of over-all extension, the individual specialist, and, perhaps most important, our clientele.

Extension's role is education--a process of bringing about desired changes in people. Extension's objective in the interdisciplinary approach to education is to achieve maximum effectiveness and efficiency in bringing about those desired changes. To put it in the terminology of the economist--the optimum combination of the inputs of capital and manpower (brains in this case) to achieve the desired results.

In the earlier days of extension when we were primarily concerned with farmer and rancher adoption of new production technology, the single or individual subject matter specialist was generally sufficient for the achievement of this objective. This is no longer true, for our extension program development has gone through a natural and logical evolution from narrow subject matter questions to a problem solving approach. The joint committee report on Extension Programs, Policies and Goals suggested as far back as 1948 that our objective is, at least in part, "The development of people themselves to the end that they through their own initiative may effectively identify and solve the various problems affecting their welfare." I am sure that those of us still here in 1964 have accepted this.

This evolution has not only brought into focus the desirability of interdisciplinary effort, but has made it a must if we are to continue toward attainment of our objectives.

The specialist has been and continues to be the key in most cases to rapid development, checking and diffusion of new technology. But in more recent years it has become not only essential, but commonplace to use the interdisciplinary approach to many problems at the specialists level.

For further and positive emphasis on this point, I would like to quote H. R. Albrecht, President of North Dakota State University: "In the course of our evolution, we have come to recognize three rather fundamental truisms: single subject matter approaches to problem--solving is generally inadequate for the purpose; the scope of competence of our Colleges of Agriculture (and home economics) is no longer adequate to service the entire needs of agriculture; and the solution of many of agriculture's main problems must be found outside rather than within agriculture--this is particularly true of problems arising from labor surpluses on the farm, increasing farm size, automation, etc."

What about the objectives of the interdisciplinary approach from the viewpoint of the individual specialist? Let's list a few general objectives of specialists and then see how they may be attained through this approach.

Results (from his work) respect (for his work), reasonableness (in his amount of work). As objectives, I don't think any of you would quarrel with these.

Another objective of the specialist we should assume, and this may not be so universally true, parallels that of over-all extension--a coordinated program. This



may be defined as one where projects, activities, goals and objectives are compatible and consistent with each other, and not conflicting or opposed to each other. This compatibility and consistency applies to objectives, subject matter content, timing, use of facilities, resources and demands on time. To achieve coordinated programs, extension workers must identify themselves first and foremost with the total Extension organization, its' objectives and goals. They must be more concerned with the success and achievements of the Extension Service than with personal recognition. This requires organizational identification and loyalty rather than job loyalty.

But to look back at those 3 R's of individual objectives:

Each individual specialist achieves greater results when his efforts are teamed with a group of specialists all working on a common problem. A group of specialists assigned to one common problem is inter-supporting and the individual specialist has more to show for his efforts at the end of the year.

Having problems defined by group action or at administrative levels, gives the specialists work greater status - respect. It also has a tendency to eliminate the criticism that some specialists have a tendency to over-promote their particular commodities. Group planning directs the specialists efforts in a direction which the group thinks will give greater returns.

The interdisciplinary or group approach has a tendency to simplify and reduce the number of projects that a specialist works on. It tends to pinpoint his efforts and more is accomplished in an orderly way.

The objectives of our clientele, the people with whom we work, are undoubtedly the most important. Their degree of satisfaction with our efforts, in the long-run, determine our very existence. Here we can be quite specific as to the farmers and ranchers with whom we are concerned in livestock and range programs. These operators must combine all of the best technical knowledge; whether it be in animal breeding, feeding, disease and pest control, facilities and equipment, feed and forage production and harvesting, marketing, credit, and others, into a management packet that will give maximum returns. This is his objective, and unless we, as specialists can fit our various competencies into, at least a reasonably logical overall package, how can we expect the operator to do so?

Now, I would like to spend a few minutes reviewing how we are organized here at Colorado State University for interdisciplinary planning and action.

Our housing of Extension specialists with their respective departments is traditional; we feel it works reasonably well, and it is adhered to as closely as possible.

Under this long-standing policy and procedure, our specialists are responsible to the appropriate department for the technical accuracy of their subject-matter information. This includes the selection, content, design, and conduct of demonstrations. Under this policy the opportunity to counsel frequently with the department head, to associate regularly with co-workers doing research and resident instruction, is most essential. This is accomplished to a considerable degree, for the specialist is considered a member of the department. As such, he regularly participates in staff conferences and seminars as well as the less formal--but perhaps more useful--coffee breaks and "bull sessions."

This procedure, we feel, has dual significance and value. It not only keeps the Extension specialists abreast of what is going on in research--and instruction--

but also provides an opportunity to keep department personnel somewhat in touch with the people of the State, including their expression of research needs.

Fitting the particular subject-matter knowledge and skills of the specialist into the Extension program to best meet the responsibility of Extension to the people of the State, is however, the job of Extension administration. After all, the particular area of subject-matter specialization was recognized and the position created and filled by Extension administration in response to an obvious need. In our organizational structure, consequently, the specialist is responsible to Extension administration for program planning and coordination, for Extension teaching methodology, and for organizational patterns to provide educational opportunities.

The reorganization, three years ago, of Project Agreements to the areas in which we now operate was particularly timely and useful to us in Colorado. The required process for the development of the specific Project Agreements, subsequent staff involvement in putting together plans of work, carrying out those plans, and reporting progress and results to meet our responsibilities under the Project Agreements has, despite the problems, proven extremely effective as a vehicle for achieving far greater specialist staff cooperation and coordination than we had previously experienced.

With the advent of this new process some organization for total programming was an obvious necessity. We were certainly not original in the procedure we adopted and we borrowed heavily from other States in setting up a coordinating committee approach.

For Project Area III we recognized some logical sub-divisions by broad subject matter areas that fitted the project and also corresponded quite well to our staffing pattern by departments. These sub-divisions were--and our coordinating committees correspond--Field crops--Horticultural Crops--Livestock and Poultry--Natural Resources.

Members of these sub-committees are: primarily, the specialists whose subject-matter responsibility is most closely associated to the committee title. For Livestock and Poultry these are, the animal husbandmen, nutritionists, sheep and wool, dairy and poultry specialists, and veterinarian.

In addition to the primary specialists those specialists whose subject-matter responsibilities encompass the entire, or nearly entire, project area, must serve on two or more committees. Thus, the livestock and poultry committee includes the entomologist, agricultural engineer, farm management specialist, and conservationist. The latter is responsible for our range management programming. Provision is also made for 4-H staff and Information Office representation.

A coordinating committee chairman was designated administratively for each committee. Considered in making this designation was not only seniority and experience, but also the ability of the individual, and his calculated acceptance in a leadership role by the committee members. This designation carries a coordinating responsibility, but no administrative responsibility. This latter may be a fault in the organizational structure, but we have not been able to convince ourselves, as yet, that the responsibilities of a subject-matter specialist should be further diffused by adding administrative responsibility.

The primary responsibility of each of these committee chairmen is to develop, with the cooperation of his committee members, a coordinated plan of work, a teamwork approach to carrying out that plan of work, and a coordinated report of



accomplishments. In deference to time, I will not go into detail of how this has been accomplished by individual efforts, committee meetings, etc.

There are some obvious benefits to this system:

1. Staff members get together--Seminar. They understand each other and begin to compliment each other's effort on overlapping situations. The best way to coordinate is to get people working together. They must know and respect each other and know what each can contribute to the problem.

Result - An interdisciplinary problem solving approach.

2. This problem solving approach is a realistic approach. A team effort. Lessen giving the answers before we have identified the problems.
3. Change of attitude on our staff--to accepting the real value of a more effective extension program.

Of course, the best of plans on paper mean little until translated into action. Simply having specialists from several departments participate in a workshop may not necessarily mean that the material presented has actually been coordinated or integrated from a management point of view. We feel that, for the most part, we have overcome this potential hazard by joint preparation of presentations, rehearsals and critiques, and experience. I could give you a number of specific examples of successful programs in the specific area we are discussing today, but will not attempt to do so as I am running out of time.

As I have already indicated, there are problems inherent in our staffing pattern and organizational structure.

While our specialists, as well as other staff members are considered as faculty by the University, they do not have academic rank and title. Consequently there may be resistance on the part of their co-workers in research and instruction to recognize them as equals and bona fide members of the department. This is no doubt compounded by the fact that the department head has no administrative responsibility for the specialist's program, nor for really fitting him into the general scheme of things in the department.

Making this type of association operate effectively hinges almost exclusively on the specialist himself. How well he gains the respect and confidence of the department personnel, including the department head; and how well he is accepted and recognized as a real member of the department is primarily up to him. Fortunately, in most cases in our situation, our specialists have successfully met this challenge.

Coordination among specialists, other than at my level, is essentially by invitation instead of by direction--really fine when it works, but difficult to correct, with our committee organization, when it doesn't work.

Department-wise, other than the Extension personnel, there is little knowledge and appreciation of our Extension program. Even though the department head receives a copy of the Project Plan of Work, and a review of this with the appropriate committee coordinator, I doubt that it goes much further, or is even referred to again.

Efficient and effective communication remains one of our most difficult problems. The problem is most critical at the interdepartmental level. It is a constant

source of worry between State staff and county workers and occasionally of concern to the specialists.

State staff-wise, we have a much better opportunity to facilitate communications. Coordinating committee meetings, specialists monthly meetings, monthly State staff meetings, team planning for program implementation, office memoranda, seminars, workshops, and even informal coffee sessions, are all important and useful channels of communication on campus.

We constantly point out the need for change to our clientele, but I am afraid we are all inclined to hold dearly to our present and past methods and techniques within extension itself. Opposition to change is ever present. Status quo is more comfortable and specialists frequently fear their individuality may become submerged in any team efforts.

Suggestions for overcoming these problems and improving our interdisciplinary approach! I hope these primarily come from the other panel members and from you.

There are, however, a few things that I feel we must continue to develop and emphasize:

- A. Increased understanding, acceptance, and participation in the Extension phase of the land-grant institution program by the University staff.
  1. This must be generated at the department level. Whether or not this should and will involve:
    - a. Academic rank and title for Extension workers.
    - b. Some Extension responsibilities for department heads--must be determined in the near future.
  2. An increase in joint appointments in research and Extension undoubtedly will occur.
- B. More effective use of the project coordinating committee--and sub-committee procedure--possibly even with some administrative authority assigned to the committee chairman.
- C. Improved communication within State staff, between State and county staffs, and particularly interdepartmental.
  1. Certainly with more frequent district agent and specialist group conferences.
  2. A better understanding of the program-planning process by all staff members, more coordination of plans and work, and more appreciation of the benefits of the team approach to the individual.
  3. Consideration of administrative designation and direction of interdepartmental committees.

I hope that I have given you some understanding of our Colorado institutional organization; our Extension organization and procedure for meeting our livestock and range program responsibilities, the advantages and problems we experience with each; our communications procedure and problems; and the areas we presently



recognize for emphasis toward improvement.

In conclusion, program action includes program coordination. There is strength in intensive exposure with a specific audience of problems interdisciplinary in nature. Similarly there is strength in strong departments, individual initiative, a spirit of competition and pride.

ooOoo

Is Social Improvement?

Some action includes program coordination. There is already  
exposure with a specific analysis of problems interrelationship in  
fact, there is stress in strong departments. Individual fact  
of competition and pride.

00000

1950

1951

1952

1953

1954

1955

1956



## INTERDISCIPLINARY ACTION IN FORMULATING LIVESTOCK AND RANGE PROGRAMS 1/

All of us are aware that before action occurs many processes are necessary prior to this implied movement. Specialists, as leaders in their respective subject-matter areas must through intimate knowledge of resources - both natural and human - agree upon the scope of the problem. Let's not become deluded into thinking that it is always easy to delineate a problem. Too many of our programs in the past have been formulated in a week - or perhaps even in a day - as agents and specialists sat down independently, alone, or individually to prepare an annual plan of work.

It is a rude awakening to learn that some of the so-called problems are not problems at all, simply symptoms. Easily recognizable things that we tag as problems can lead programs astray.

Specialists visiting counties, meeting with agricultural organizations, and reading county agents reports all hear and read of over-grazing and poor range conditions as problems. To me these are not problems but symptoms. Proper grazing is every land manager's concern. The problem of livestock control must be solved before range improvement practices are initiated and not afterwards. In fact, this one factor is so important that it's solution frequently eliminates the pressing need for other range improvement practices.

Range and livestock managers tend to think of improvement in terms of better distribution of water and grazing, supplemental feed, more forage, higher quality forage, grazing systems, improved livestock management and disease control. This is not enough. Attaining a year round balance of feed supply and needs, effective use of practices for educational purposes and reasonable rules for regulation of grazing use must become a planned part at the beginning of every range and livestock program. I think range improvement practices should be used as a tool to attain sustained grazing use, or devices to increase forage supply.

Problems, concerns, timing of work to be done and agreement of improvements desired, demands the best from the most. Let me illustrate by several examples why I believe we, through necessity must identify, plan and spur into motion range and livestock programs developed through interdisciplinary action: A new specialist in range is concerned about identifying immediate needs so he can prepare a "complete" plan of work. To accomplish this rapidly leads to confusion. He may say the lack of data about animals, soils, vegetation, water, plant growth, and all other aspects of the natural landscape are the main deterrents to range and livestock improvement. There is no argument that exact and detailed information is often lacking to some degree, and improvement practices are difficult to prescribe when conditions to be improved are inadequately known. However, most of our Cooperative Experiment Stations have studies under way to provide specific information to help solve some of the urgent range problems.

Definition of "immediate need" is a difficult question or set of questions to answer. My belief on their needs, broadly stated, is the production of the most and best quality forage possible. It is also the most efficient use by animals of the forage produced. It is also the efficient use of animals for human food.

---

1/ Presented by H. M. Kilpatrick, Range and Pasture Specialist, University of Nevada, Reno, at the Western Extension Livestock and Range Management Specialists Conference, Colorado State University, Fort Collins, Colorado, July 8-10, 1964.



If a range is not producing at capacity, and the most are not, the job is to find the causes and eliminate them. Attacking them one at a time is ideal if the limiting one can be found and solved, but more likely, lasting success will be found in solving many interrelated limiting factors which combine into technological and social progress.

Perhaps the specialist will think that the most practical, useful piece of information that he can have would be a vegetational map of the State. It would be most interesting information to have, it would be a valuable display for a lecture, it would be useful in a University classroom, it would be a help in determining the resources, but my question is, "what good is it for gaining range improvement on a specific watershed, say for this the Humboldt Watershed." Small scale efforts over large areas do not help immediately. The urgent need is for large scale efforts in small areas - a detailed study of the Humboldt Watershed.

Another thought might occur to this specialist; to establish experimental pastures that test the influence of different stocking rates on animal and forage production. The immediate value of such work should be questioned on two points. Wide variation in precipitation results in wide variation in forage production, so it takes several years to obtain stocking rate measurements which adequately characterize the average and extremes in production. Knowledge about these parameters is useful, but more important is how to deal with them in the year to year producing operation. Experiments and demonstrations to determine effects of stocking rate often do not give this information. A second point is that the forage produced, and hence the ideal stocking rate, is to a degree the result of other things such as kinds of animals; combinations of vegetation, soils and animals; season of grazing; and distribution of grazing. Since these factors vary greatly within short distances, stocking rate studies should be used to relate vegetational and animal responses to grazing pressure, rather than to attempt to obtain an exact stocking rate for one area.

Another example of what the specialist might consider, would be the need for a forage plant nursery to show which plants grow the best in "this environment". This kind of demonstration or study does little to give needed information when the plots are irrigated to insure plant establishment. Not much rangeland can be irrigated and if it can be, the problems are quite different from those on dry ranges. A set of 6 x 3 meter plots marked by freshly painted white stakes and different shades of green contributed by numerous species is appealing to the eye, but can the surrounding desert be treated with flowing water? These kinds of studies show what can be accomplished with more water rather than demonstrating new species best adapted to range conditions as they are.

I have just given several reasons for my believing why interdisciplinary action in formulating livestock and range programs is a necessity and can lead to more lasting and gratifying results both for ranchers with whom we work and for ourselves.

These illustrations further point out the reasons why interdisciplinary action in formulating range and livestock programs is a must if we are to provide maximum information in solving problems.

Results in livestock improvement can be used to illustrate the need for careful planning for both research and demonstration projects. Many experiments have indicated that animals must have adequate feed to produce at their maximum potential and that animal potential cannot be determined without adequate feed. Breeding practices which aim at raising the potential cannot succeed until the needs for



feed are fully met, or until the animals are fed enough to respond to the greater potential obtained through breeding.

One of our county agents in the most arid part of our State was asked what his most immediate need was in the livestock program and he immediately answered - "better bulls". Each of us have seen the results of such thinking. In many areas forage production is so low that within a very short time these "better bulls" can not be differentiated from the native bulls.

I regard meetings, in many respects, as tools of the administrators; however, well planned meetings are necessary for agents, specialists and researchers to "come to agreement" so effective extension programs can be formulated. All of you come from States that produce more livestock than Nevada, yet, let me review our potential in just one phase of this production picture. We have 500,000 beef cattle. From this number of animals 226,000 calves were sold. Nevada's average calf crop is 78%; whereas, the average for the western States is 88%. If we can raise our average to the other State's average, we would have about 50,000 more calves annually. Taking a conservative price of \$75 each, the increased annual gross income would be nearly 3 3/4 million dollars. Even an increase of 10% in the number of calves sold would be an increase of nearly 1 3/4 million dollars gross income.

I believe an interdisciplinary approach can accomplish this objective in a shorter period of time and therefore be of greater benefit than if each of us plugged away "independently".

At the University of Nevada we have a committee composed of researchers and specialists to study major objectives in the development of an Extension Livestock Production Program. Because this is a large industry we thought it best to divide the livestock industry into four major categories. These are presently called:

1. Range Beef Production
2. Livestock Alternatives on Irrigated Lands
3. Feed Lot Operations
4. Dairying

Today I'll only discuss the first category of Range Beef Production. Our committee made a division similar to what a rancher would do - by dividing the management into summer and winter phases. In the summer, we thought we should be concerned with -

1. Range Forage
2. Breeding Programs
3. Disease
4. Marketing factors
5. Improved forage production

and in the winter our concern would shift to factors involving -

1. Level of feeding
2. Supplements to grass hay
3. Forage quality and utilization
4. Feeding alternatives.

These outlines were sent to other departments to secure their suggestions - we cut across disciplines, subject matter areas and departments to get their thinking.

The things we want to learn are: where is research contributing or where will research projects ultimately contribute, and where are the gaps in research.

County agents and leaders of organized commodity groups will be involved before our Livestock Program passes the final inspection and receives a brand.

ooOoo



MAKING THE MOST OF MASS MEDIA IN THE IMPROVEMENT OF  
OUR EXTENSION EDUCATIONAL TECHNIQUES 1/

When Pat Pattengale asked me if I would spend a few minutes with you on this subject, I accepted for two reasons: (1) I do firmly believe that farm publications can reach your clientele with the information you would like them to have as no other persons or media can do, and I'll tell you why in a minute; and (2) the time of the meeting was far enough away not to bother me about getting a speech ready!

I think many of the reasons why you all should make every effort to consider maximum use of farm publications in getting your story across to ranchers and feeders is rather obvious and I do know that many of you are now aware of this professional tool to help you with your job. In fact, many of you have used Farm Journal and other farm publications in recent months to reach ranchers in your area.

But, I guess that Pat thinks there is some merit in all of us reviewing how you each might make more extensive use of farm publications. And I think that could be time well spent for all of us.

FARM PRESS IS A READY MADE TOOL FOR YOU

First of all, the farm press is not only a ready made tool to help agricultural extension specialists reach ranchers with information about livestock management, but also has editors who will prepare the information for your clientele if you will work with them.

Here is a tool that will take your directions on breeding and feeding and your photos showing application or results, and run them in a form that we think farmers will read and understand. You may not always agree with the way your stories are edited (I don't agree with the way they edit mine!) but our surveys on readership prove that copy about livestock has one of the highest rates of readership in the magazine! And, I've had County Agents tell me they make sure they read the latest issue of farm magazines as soon as they arrive, so they will be prepared to answer questions farmers may ask them regarding "what they have just read in the farm journals."

This tool is free. I'm sure you have a budget to worry about. Also, your information division has a budget to worry about. It costs a lot of money now-a-days to prepare publications and it is not easy to get them in the hands of ranchers after you finally get them off the press -- have you ever had a publication get off the press as soon as you wanted it! Just think about this important fact for a minute -- This ready-made tool that will take your message, with drawings or photos, right into the living room of practically every farmer in your State, will do it free of cost to you or your college. Oh, you may spend 5¢ for a stamp or you might even be enough aware of this efficient media to pick up the phone and call an editor and tell him the best place to get a report you have in mind. Or when you would like him to stop by and visit about the details of a news release.

---

1/ Presented by Ovid Bay, Regional Editor, Farm Journal, at the Western Extension Livestock and Range Management Specialists Conference, Colorado State University, Fort Collins, Colorado, July 8-10, 1964.

### EASILY AND GREATLY MULTIPLY YOUR EFFORTS

Just consider with me for a minute how easily and greatly you can multiply your efforts and effectiveness by making maximum use of farm publications.

You will reach thousands of farmers (our circulation is 3 million) with your information with one presentation as compared to a relative handful of farmers you may reach at a meeting that you travel several hours to attend. And another bonus from using this farm magazine media to reach your livestock men, is that you reach all of them in your State almost immediately.

### ACCEPTANCE OF RECOMMENDATIONS IS HIGH

Now, you have reached your farmers with a livestock message with a tool that is:

1. Waiting to be used ..
2. Can use photos and drawings ..
3. Has an editor who will help prepare the material ..
4. Goes right into the farmer's living room ... after supper ..
5. Is free to you ..
6. Reaches thousands immediately ..

Can there be anything else? Yes, there is .. after you make recommendations you are interested to have farmers use them. You are interested in acceptance.

Well, I have seen any number of research reports where your own people from the Rural Sociology departments and other departments have proved that farmers get more of their new ideas and new information that they use, out of farm publications than any other source. Their acceptance of information in their magazine that they read regularly is extremely high.

So, you are reaching your customers in a media where they expect to find this type of information and in an environment where the acceptance is already high. They have respect for their farm publications.

Here is a situation that is yours for the asking and commercial companies spend thousands and millions of dollars trying to create favorable environments for their products. Boy, what wouldn't they give to trade places with you!

### "CULTIVATE" EDITORS

I suppose the crux of this discussion should be "How I would use the Farm Press". I'm hardly far enough from home to be an "expert", but here are some points I believe you might profitably keep in mind:

...first of all, be aware of this tool that is available to all of you, and keep this in mind as you try to reach more people.

...take time to "cultivate" editors as well as hold meetings! By this, I mean that you should buy them coffee and let them buy you a meal!



Seriously, I do mean that you should take time to drop us a note if you spot results that we would be interested in seeing. Just a note or a phone call from you telling an editor where some good photos should be taken will do more for your own public relations with the farm press than you may realize.

...take farm editors into your confidence, if you have not. You can trust farm editors to wait until you are ready, but many of us need to work ahead a few days. Just make sure that both you and the editor understand when information is not to be released until a later date.

...if the material and information is very complex, or for some reason you would like to see a proof or carbon of the report, as the farm magazine is using it, this can usually be arranged. Farm Journal sends a lot of carbons around for checking and we find it pays off very well for everyone involved.

Well, you are all very busy people. I know -- I've tried to find several of you at various times -- and usually you are gone. Farm editors are usually busy people. In summary, I sincerely believe that each of us will find our jobs just a little bit easier if we spend more effort being aware of how we can plan together to get the story you want told ready and presented to farmers. And there is one big personal bonus for editors -- maybe for livestock specialists -- and that is the close personal friends I've made over the years in the process of using this formula in helping you reach the people you want to reach.

I know a lot of you are using the formula now ... I hope you can find more time to use it in the future. I'm sure the other editors of farm publications who are here today will agree with me.

ooOoo





HOW DO MY PUBLICATIONS RATE?  
HOW CAN I IMPROVE THEM? 1/

During our hour and a quarter together, we'll cover three points: First, Groundwork, meaning what makes a good publication, 5 required steps before any publication gains any success and 8 obstacles facing every writer of booklets. These together are the conditions we work under-the "facts of life" we're all up against--and we may not fully realize them. Second, How Do My Publications Rate? Third, How Can I Improve Them? Some 15 or so ideas from your replies to the survey and successful experience elsewhere. Together like the 4-H motto we'll try "To Make the Best Better."

Maybe you've heard of the speaker who said he had stopped giving long speeches on account of his throat--several people had threatened to cut it! To avoid that bloodshed, we'll break up this talk with plenty of visuals, a few 3-minute workshop problems and, I hope, short discussion time at the end.

Our first main point is Groundwork. Under that, let's first ask What Makes A Good Publication? You folks gave one list of qualities in the survey. Remember the first two questions: What is the "best" publication you've written during the past two years--and Why do you consider it "best?" Here are your answers, and county agents' replies, summarized:

Specialists

1. Producers use it; frequent requests
2. Timely
- 3.
4. Complete
5. Easy-to-read
6. Concise
7. Well-illustrated
8. Short time to prepare (real asset if it's not a slipshod job)

Agents

1. Gives useful information
2. Well-organized, easy to use
3. Specific
4. All-in-one treatment
5. Easy-to-read
6. Brief, concise, direct
7. Well-illustrated
- 8.

Specialists' quotes under item #1, "Producers use it": "...readily accepted...requests over several years...basic for use by inexperienced person...4-H'ers coming to campus do better in demonstrations and judging...became possible to set up test plots..." Solid evidence there of use.

When you compare your list with agents' replies, notice that on five of seven qualities, your views and theirs agree exactly. Points 1, 4, 5, 6, 7.

Among all qualities, agents had most to say about item #1, "Gives useful information." Quotes like these: "...informative...it has information we can use...applies to our part of the State...factual...answered a precise problem precisely...contains information ranchers ask for...answers many questions without requiring more information..." There's some high praise in those answers.

---

1/ Presented by Lyman J. Noordhoff, Publications Specialist, Federal Extension Service, USDA, at the Western Extension Livestock and Range Management Specialists Conference, Colorado State University, Fort Collins, Colorado, July 8-10, 1964.

Now let's look at a second version of What Makes A Good Publication. Fifty county agents in Texas, Oklahoma and Mississippi say readers want these 19 qualities:

Subject matter

Gives information that people want or need  
Is up-to-date, specific, useful, well-organized  
Meant for only one audience  
Tied closely to Extension educational work  
Well planned before writing

Writing

Clear, brief, interesting, easy-to-understand

Artwork and typography

Attractive, well-illustrated. Legible type

Pretest

Pretest job with sample readers and revise as needed

Distribution

Enough copies, on time, easy for readers to get them

Instead of two lists here, Western and Southern, we really have one that fits into the other. Both define a good publication in almost the same way. Notice how your own and agents' definition from out West fits perfectly into the list of 19 qualities from agents down South. (Western items marked \*\*).

Subject matter

Gives information that people want or need  
\*\* Producers use it. Gives useful information.  
Is up-to-date, specific, useful, well-organized  
\*\* Timely. Well-organized, easy to use  
Meant for only one audience  
Ties closely with Extension educational work  
Well-planned before writing  
\*\* Complete. All-in-one. Short time to prepare.

Writing

Clear, brief, interesting, easy-to-understand.  
\*\* Easy to read. Concise, brief, direct.

Artwork and typography

Attractive, well-illustrated. Legible type.  
\*\* Well-illustrated.

Pretest

Pretest job with sample readers and revise as needed.



## Distribution

Enough copies, on time, easy for readers to get.

Now let's look at What Makes A Good Publication in still a third way. This time we'll set the 19 qualities of a good publication within a 6-part complete publications program. Your booklets make their greatest impact when you follow these six steps:

1. Decide what titles you'll write, based on information needs of the people.

Too often we substitute our own judgment or base decisions on subject matter available. One Extension director puts it squarely: "Our Fact Sheets have been very well received, but there are large gaps in up-to-date information needed by rural people in our publications program." In another State livestock is the major source of income, yet their editor says "next to nothing" is available in publications.

Reminds me of the cattle feeder who met his pastor after the pastor had returned from meeting with other preachers. "What did you talk about in your meeting?" asked the cattleman. "How to get more people to come to church," replied the minister. The rancher thought over that reply a minute, then said: "I've been to lots of meetings of cattlemen, but we don't talk about getting the stock to the feed rack. We spend most of our time talking about what's in the rack."

How complete is our feed ration of available publications that people want or need? Is anything missing from the feed rack?

2. Prepare the manuscript for these needed booklets. This includes planning, writing and illustrating. This is a teamwork job for author, editor and artist jointly. Planning means getting ready to write. It's the foundation and groundwork before writing. It's your "plan of action," like a builder's blueprint, a tourist's roadmap, your own annual plan of work, a researcher's project outline, a teacher's course outline or your wife's recipe or dress pattern. Just like these examples, you also need a definite plan for every publication to show "how you'll get there."

Planning means analyzing beforehand and writing down short, specific answers to four questions: (1) Why am I writing (purpose)? (2) Who are my readers? (audience...their physical and social characteristics like age, sex, education, income, size and type of farm, knowledge of subject, stage in the diffusion process, attitudes, etc.) (3) What's my message? (content, subject matter....not all you know, just fewest essentials for intended reader) and (4) How can I present these chosen facts most clearly? (outline).

Writing comes AFTER laying this foundation. The finest writing and fanciest illustrations can never cover up poor planning.

3. Pretest the job with intended readers--to find and correct any flaws before final printing. Consistently, those who pretest say it smooths out rough copy, helps readers understand it easier.
4. Print the job, perhaps regionally for several States. If so, they'd need to start their teamwork back at steps 1 and 2. Your editors handle actual printing.

5. Distribute efficiently. You need to make these plans during step 2.
6. Evaluate results. What did your readers learn and do from reading your booklet? Studies leaders can help you measure these changes--and get some valuable feedback.

Why do some booklets fail? The Adult Education Association names these main reasons: (1) lack of planning, (2) lack of pretesting, (3) lack of evaluating. Any author can find gold "in them thar hills"--stronger publications--by prospecting a bit in any one of these fields.

Here's how the 19 qualities, including yours, fit under these 6 steps:

SIX-PART COMPLETE PUBLICATIONS PROGRAM  
Including 19 Qualities of Good Booklet

Decide What Titles to Print

Gives information that people want or need \*  
Tied closely with Extension educational work

Prepare Manuscript

Plan --

Well planned before writing \*  
Meant for only one audience  
Is up-to-date, specific, useful, well-organized \*

Write --

Clear, brief, interesting, easy-to-understand \*

Illustrate --

Attractive, well-illustrated.\* Legible type

Pretest

Pretest job with sample readers and revise as needed

Print

Perhaps regionally for several States

Distribute Efficiently

Enough copies, on time, easy for readers to get

Evaluate Results

What changes or progress, partly due to booklet?

\* Named as good quality by Western specialists, agents, or both.

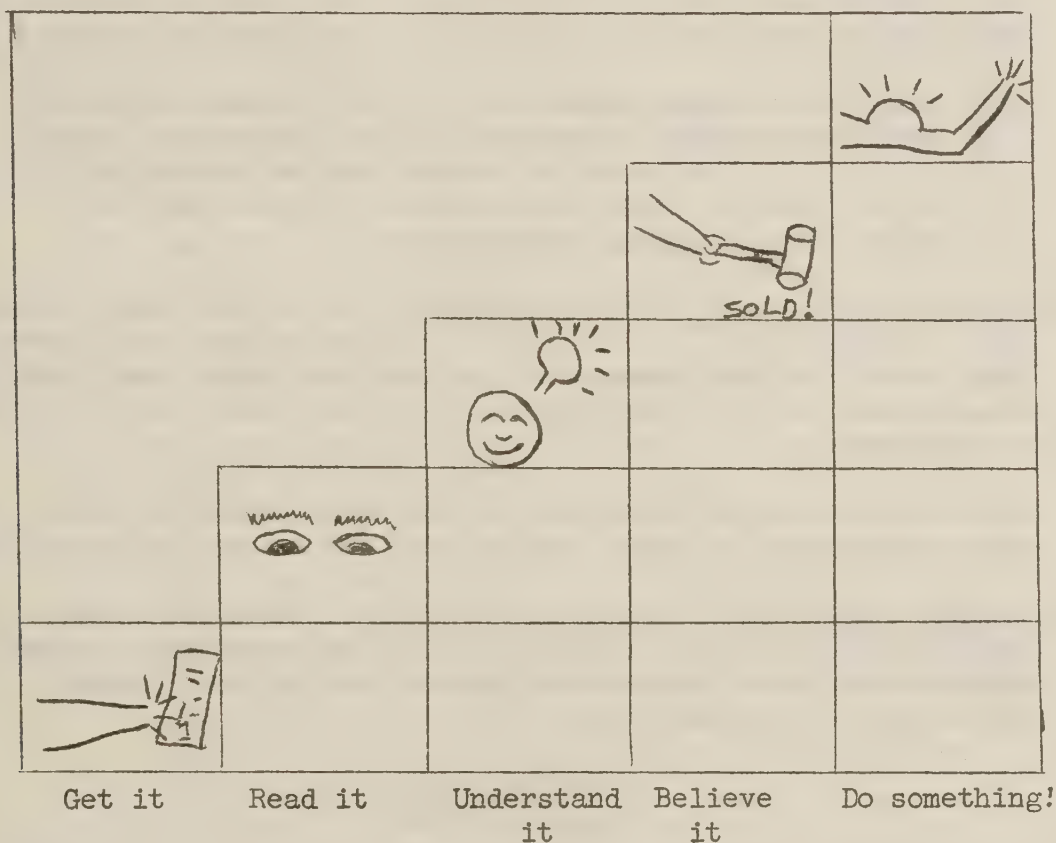


Every part in the publications process, and every quality of a good publication, fits into one of these six steps. They make a complete framework for the total publications job and for everyone's part in it. This is what we're shooting for in the complete, ideal publication.

(Two-minute workshop exercise: Do these qualities suggest changes you might make to improve your publications? Write down one change you'd like to make. One minute to write, one minute to hear several answers).

So much for What Makes A Good Publication. Next, we'll take a quick look at Five Required Steps before any publication can be called "good." This is our second piece of Groundwork.

The only purpose of your booklet is to carry information clearly from your mind into your reader's mind--with no mix-up, or the least possible, in the transfer. Five steps are required, as nearly perfect as possible, to complete the transfer. Notice how weakness at any one step hurts effectiveness of later steps, and thus of your whole booklet.



1. Get it. This means distribution. Plan early, while preparing the manuscript, how you'll deliver your booklet to intended readers.
2. Read it. Without planned distribution to intended readers, they have no chance to read your message.
3. Understand it. Readers must first receive and read your booklet.
4. Believe it. Before they can accept what you write, readers must get, read and understand your publication.

5. Do something! Your readers will do nothing until they get, read, understand and believe your message. Results, action, change are the only true measures of the value of your booklet.

State and county Extension workers distributed nearly 52 million copies of State and USDA booklets during 1963. How well did they carry out all 5 steps fully?

Education is about 90% communications--sending and receiving messages. Education is also the transfer of knowledge, skills, attitudes, understanding. The important word is transfer. Each of us can largely control whether our messages are cloudy or clear--whether we transfer confusion or comprehension. How well we communicate decides much of our success as educators.

Now for our third piece of Groundwork, let's look at Eight Obstacles always blocking your way. These "facts of life" stand between you and your reader in efficient transfer of your message. Remember them and figure how you can go through, under, over or around each roadblock.

- o We're competing for a free audience. We can't force anyone to read our booklets; we must win them as readers. And whose obligation is it that the message gets through? Stuart Chase says in "The Power of Words:"

"When the audience turns away, there is something wrong with the writer's communication line. He should look to his tools. This holds for anyone who has something to say to others. It is primarily his lookout that the message gets through, not theirs."

- o Without readers, we can teach nothing. People can read our booklets or not, as they choose. If they never pick up a copy, or if they throw it away, we've lost our communication line with them. They cut it. The reasons make no difference--our readers are gone. And so is any chance to help them.

You can lead a horse to water, but you can't make him drink. We can offer the finest booklets, but we can't force people to read them.

- o Readers expect to get more than they give. They expect more value of some kind from reading us than the time and work they put into reading. Almost every reader expects to get the best of that bargain. Here are three ways to show this same fact:

$$\frac{\text{Expected Reward}}{\text{Expected Effort}} = \frac{2}{1}$$

Like a fraction in arithmetic, if your reader feels his reward will be double his effort, he'll keep on reading.

$$\frac{\text{Payoff}}{\text{Cost}} = \frac{4}{1}$$

Likewise if the payoff looks larger than his cost, he'll stay on as your "customer."

$$\frac{\text{What do I get out?}}{\text{What do I put in?}} = \frac{1}{3}$$

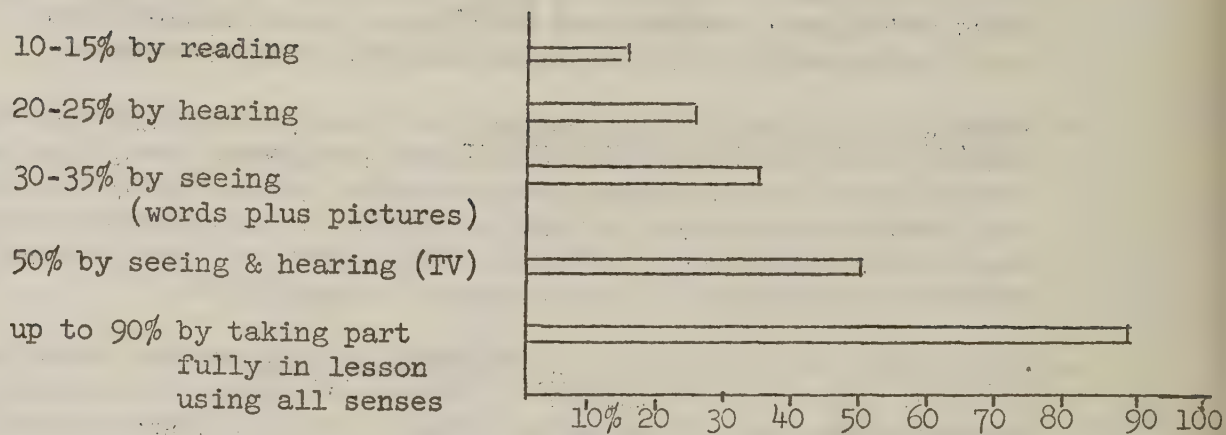


But if he figures he gets out less than he puts in, he'll drop your booklet. He figures reading your stuff is a losing proposition. So he cuts your communication line and kills off your chance to teach.

- Readers are buried by information. At least 4 times more printed information comes into the average farm home each week than it possibly has time to read, says a former CBS educational consultant. Marketing people say "The average person in U.S. is exposed to 1,500 sales messages every day. That's probably more true of urban dwellers than rural, but...the figure is reasonable, if not downright conservative."
- Farm people spend less than 15 minutes per day reading magazines and our booklets, likely in that order. They also average 30 minutes daily reading newspapers,  $1\frac{1}{2}$  hours with radio and  $2\frac{1}{4}$  hours watching TV. These are findings from a Wisconsin research study during winter, when farm people have more time to read.
- More people prefer entertainment to education. They will not struggle to get our information.
- We often disregard our reader's education, reading level and vocabulary-- and thus write "over his head." The more years in school, the better the reader. Schooling may well be the strongest factor affecting reading ability. To write clearly for a mass audience, remember these four facts:
  1. Median education of U.S. adults over 25 is 10.6 years; for rural adults, 9.2 years. Half of each group has more education than this, and half has less.
  2. Forty percent of adults over 25 have not gone beyond 8th grade.
  3. Whatever our education, we all read comfortably 1 to 2 grades below our highest grade in school. Research shows this consistently.
  4. Your vocabulary measures 2 to 4 times larger than your average-education reader. You recognize from 80,000 to 125,000 basic words when reading; he knows only about 50,000 words or less. Your vocabulary rates "very good, excellent or superior", but his rates "poor". The National Project in Agricultural Communications says that "The 10,000 words used most often make up 98% of all that is written."

What does all this mean? To gain and hold a mass audience, stay within your reader's limits of education, reading level and vocabulary. Any writer cuts his own throat when he gets "over his reader's head." He's almost sure to lose them and his teaching power drops accordingly.

- Reading is just plain hard work. The written word is the weakest way to teach. Many educators believe these figures are a fairly accurate estimate of the way people learn:



You face these 8 Roadblocks in every publication. Recognizing them is half the battle to overcome them. Later we'll look more fully at ways to get through, over, under or around the roadblocks when we cover How Can I Improve My Booklets? Right now, though, let's discuss these 8 roadblocks for just 3 minutes. Have we missed any? Which is the hardest for you to overcome? Why? How might you overcome any of them? (3-minute discussion).

To wrap up our first major point, Groundwork, you might remember the figures 19, 6, 5 and 8. What Makes A Good Publication? 19 qualities fitting under 6 steps in a complete publications program. You recall the 5 Required Steps for any successful publication. And lastly we learned the 8 Obstacles you face--and overcome--with any booklet. So much for Groundwork

\* \* \* \* \*

Our second major point is How Do My Publications Rate? This reminds me of the cattle judge at the county fair. It seems that one rancher's prize bull had taken every blue ribbon, grand champion and highest prize at all the nearby fairs, but here the judge hardly looked at the critter. Naturally the owner was burned up and chewed the judge up one side and down the other in pretty strong language. The judge took it all like a gentleman until finally he could hold himself no longer. "Look, mister," he shot back, "just don't blame me for someone else's mistakes!"

(Ad lib comments on booklets sent in with replies to survey among all Western livestock and range management specialists; these comments missing. Written comments returned on booklets to each specialist replying).

\* \* \* \* \*

In this third main point, you can do some free-choice feeding among some 15 ideas on How Can I Improve My Publications? One way, quickly, is not to write like an editor friend who prefers to remain anonymous. He says this sentence of his actually was printed in a big-city daily: "The City Council voted to discuss the possibility of cleaning the cesspools with State representatives."

This section has three parts: (1) a summary of your suggested improvements from the survey--what's needed; (2) a package of 7 skills that almost guarantees better booklets--anyone who wants to can develop these skills--and (3) nine suggestions you might try. The second and third parts give the how-to-do.



I placed all suggested improvements from you men and agents under some heading in the 6-part complete publications program. The 45 comments or so divided about equally between the first two parts, Deciding What Titles to Print and Preparing the Manuscript.

This is significant. As I read it, you men--and especially agents--feel that what you print is just as important as how you present it. This is good because the common weakness is to just write something rather than to decide carefully first what subjects most need to be written up as publications. Like Topsy, do our booklets "just grow" or do we plant and cultivate them? Deciding What to Print has been largely a step-child job; too often it gets by-passed. Actually it is the foundation of making publications work strongest for you.

In fact, what we print can easily be more important than how. In a USDA-Illinois study of 500 commercial farmers, they named "content" most often as their reason for choosing a booklet as best or poorest. They voted some booklets good and others bad, based on their want and need for information in that booklet.

Comments under "Deciding What to Print" fell into two categories: "cover needed information" and "keep it up-to-date." Some typical quotes on "cover needed information": "More publications of advanced nature for young people"... "Up-to-date information on reseeding and control of brush"... "Need more information on differences in nutritive value of grasses"... "Need a philosophy of developing a total livestock feed program" (giving \$\$\$ and ~~¢¢¢~~ value of practices). "Should fill a definite need, not just another number on a publication list."

These typical quotes all point to publications needed but missing. The information is there but not in publications form. Something has slipped earlier in Deciding What Titles to Print.

And listen to this quote: "Should present new information; all too many Extension publications elaborate on the obvious. Personally," this specialist writes, "I'd hate to defend or justify much of the material Extension publishes."

Comments now under "keep it up-to-date": "Regular revision"... "If it's more than 2-3 years old, it's outdated"... "Need to be revised more often to keep up with the times"... "Report research without delay." Incidentally, all these quotes came from county agents.

Under "Preparing the Manuscript," your 25 or so suggested improvements, and agents', fell about equally into the three steps of Plan, Write, Illustrate.

Sample quotes on Planning: "Leaflet may be concise, yet not present all facts needed"... "Simple yet contain detail"... "More complete"... "More folders should be combined into one longer, yet concise bulletin." These relate to scope. Other views: "Be specific in information presented"... "More timely" (mentioned 3 times) ... "Publications should be aimed at one audience situation"... "Include summary in all bulletins."

Writing should be clear, brief, specific and simple. Typical quotes: "Clear, readable copy without too much detail"... "Make 'em easy to read and short"... "Clear and concise"... "Not too many pages"... "Probably should be more brief and to the point"... "Be as specific and brief as possible"... "Write in simpler language" ... "Less technical."

And on Illustrations--"Should be well-illustrated, attractive"... "Need illustrations which illustrate"... "More descriptive pictures"... "More pictures that tell

a story"... "Use more photos"... "More imaginative layout"... "More modern appearance, color if possible, especially on the front cover."

That about finishes your comments. Two quick, key points right here tho: There were no suggested improvements fitting into the last 4 points in the complete publications program. Nothing on pretest, print, distribute or evaluate. Omitting all this is significant, especially efficient distribution. Your job as author is not complete until you've delivered those copies to readers who should get them.

Second key point--Among "Other" comments not fitting into the 6-part publications program were these two; they're loaded with meaning. (From a county agent): "More publications need to be written by specialists (instead of scientists), provided they can grasp, boil and present essentials in a palatable, colorful way." (From three specialists): "We need to write more"... "We need to write more of them"... "More are needed."

The one common word among all four quotes--"More."

High points of your suggested improvements: You were greatly concerned with Deciding What Titles to Print, and rightly so. Nothing is more basic. What questions do people want and need answered? Then answer them. Find the spot that itches, then scratch it. Once your booklets are in print, keep them up-to-date. Make your writing clear, brief, specific and simple. Use more pictures that help tell your story. And remember the password, "More publications."

Now let's look at that package of 7 skills.

"If you have normal intelligence, you can teach yourself to write good reports," says a USDA editor. "...All anyone can do for you is to give you a few pointers. You have to put them into practice. Your job is to write government reports, not the deathless prose of Shakespeare or Hemingway. They had to have genius; all you need is horse sense. Uncle Sam asks only that you...make (reports) as useful as possible to other people."

Almost everyone has, or can develop, these 7 skills. They're basic equipment for better booklets. There's no "secret formula" inherited by the chosen few. Anyone who wants to can develop and sharpen them. One basic suggestion then--build up these 7 skills to their fullest within yourself.

- ... The desire or willingness to write. No other ability counts for much without this first and basic condition.
- ... The ability to think clearly. Clear writing is no more than clear thinking on paper. An editor, speaking to Extension specialist co-workers, challenged them, "...Words often get blamed for muddying up ideas. Too often it was a muddy idea to start with."
- ... A reader-oriented attitude. If anyone is boss, he is. Without readers, our booklets can do no teaching. A booklet without readers is like a store without customers.
- ... The concept of planning; that is, getting ready to write. You plan before you write. As one editor wisecracked, with much truth: You wouldn't build a doghouse without a plan, you'd look at the dog first. For us, planning a publication is just as important for author-editor-artist as testing soil is for farmers.



- ... A team spirit among author, editor and artist. Here is Pennsylvania's official policy: Author is responsible for subject matter, editor for editorial policy and improved writing, and artist for layout and art decisions. All three together can put out a far stronger booklet than any one working alone. Each person's talent strengthens the other's. As a Texas editor put it: "How do you spell 'team'?" "T-e-a-m," came the answer. "That's right," agreed the editor, "there's no 'I' in it, is there?"
- ... Normal picture-mindedness or translating words into illustrations. Often a photo or drawing can teach better than words alone. Where are these points in the copy? Your editor and artist need your help as subject matter authority to help find these points and decide how best to illustrate them.
- ... Enough time for the job. Don't indulge yourself with some excuse to avoid writing. For example, if you've decided that sheep men need a booklet on disease and parasite control, then set aside and protect whatever time you need for that job. Oklahoma policy protects specialists from county travel requests while they're preparing booklets.

There's no magic road to better booklets. They're made, not born. Cultivate these abilities; mix in your own horse sense. You'll like the results--the way readers understand and apply your message better.

Now let's put these skills to work thru nine suggested improvements:

1. Plan each job carefully BEFORE writing with your editor and artist. From 30 to 40 persons play some part in producing your booklet. At least a dozen people on campus plus some 12 to 25 more persons in the print shop. Each step takes time, more than anyone thinks. And changing one comma often costs \$5 at the print shop, but not one cent in the typewriter.

One author insisted on corrections costing \$600, or about one-third the total cost of the job. Such changes normally should be limited to about \$30.

In comparison an Oregon research author talked over well-defined plans with his editor for an hour or so, accepted several suggestions and dictated his 800-word folder for farmers immediately. Author's total time--5 hours.

How can you plan? Write down pin-point answers to Why? Who? What? How? Or follow any other system that works for you. Let your editor and artist help decide your purpose, readers, content and outline. Listen for their ideas; they'll listen for yours. Pool the best of your combined thinking. All parties must be willing to give and take--to be receptive, willing and understanding. No one person has all the best answers, but author-editor-artist together can find best answers. Like this borrowed poem.

"I can do it," he thought.  
So he did it. His way.  
There was no interchange.  
There was "hell to pay."

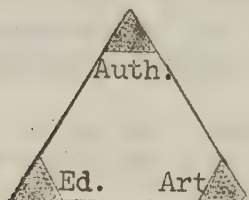
"We can do it," said one;  
If we all lend a hand."  
But without the whole group  
It would be contraband.

"This is tough," said his colleague,  
"What do you think?"  
As they went 'round & 'round  
It near drove them to drink.

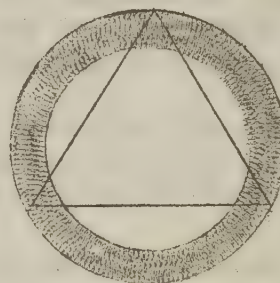
The problems were settled,  
The barriers fell.  
This working together--  
It, too, can be hell!

They brought in others,  
This doubled the scope.  
The approaches were different.  
But it developed new hope.

Look at the difference between these same two triangles:



Author, editor and artist completely separated; no teamwork



Completely united in smooth teamwork.  
(Put a pencil thru hole in exact center of equal-sided triangle and whirl; red points blend into complete circle, symbolizing teamwork).

2. Start off your manuscript with an "appeals" section. Show your readers clearly and right away "What's in this for me?" Why should I read this stuff? What good will it do me? How will it help me? Point out the payoff to your reader thru the title of your booklet and your first 100 words of copy, maybe only 25-30 words. Maybe a couple of illustrations make the point. This step helps you win readers and overcome that road-block.
3. Watch your language! It's awfully easy to write "over our reader's head"; so easy that we can hardly be careful enough to fit our vocabulary within limits of our reader's understanding.

In a University of Wisconsin study of 25 soils terms, only one farmer in four knew the correct meaning of "pH." Yet what term is more basic to understanding everything about soils, fertilizers, crops?

Using these same 25 soils terms, Wisconsin editors later compared farmers' actual knowledge of them with estimates of farmers' understanding by researchers, editors and specialists. That is, farmers said these terms were of a given difficulty; how did this compare with estimates of difficulty by others?

All three college groups judged the 25 words to be easier than farmers said they were. Campus folks thought farmers would understand the terms with ease, but farmers found them hard.



Wallace's Farmer, Iowa farm magazine, compared the same stories written at 8th-9th grade level and at 7th grade level. Everything was the same except reading ease. The 7th grade version not only gained more readers, but they remembered more than readers of the harder version.

Words like these from your booklets can easily be cleared up for average-education readers:

"preparatory to possible fertilization"	before it may be fertilized
"may help in conversion of"	may help convert
"This should be done by a veterinarian."	Have your veterinarian do this.
"Much improvement may be done if one will pay close attention to a few im- portant steps."	Pay close attention to a few important steps and you may improve your beef herd much.
"It is not impossible to..."	You can...

Simplify awkward phrases and long, nontechnical words. Stay away from passive verbs like poison; use active verbs all you can. Use as few technical words as possible; when you use a new one, define and explain it immediately and several times. Try hard to use words in your writing that your reader uses often when he speaks. Transfer his spoken language onto your written page. Write like you talk, and like he talks.

4. Keep it short. "Learn to cut," urges Dr. Rudolph Flesch, readability authority. "The most common fault of writing is wordiness; the most important editorial job is cutting. Cutting unessentials will make essentials stand out better and save the reader time."

A Vermont study of nine publications showed that the longer the booklet, the less likely that people would read it. That is, the shorter it was, the more likely they'd read it. Readership was defined as "read all" the booklet. They ranged from a 1-sheet folder with 82% readership, to a 32-pager with only 10% readership. Correlation between length and readership was a minus .70.

Few people will read a long publication in full. They're more likely to spot-read here and there. Certain parts of the Vermont 32-pager had high readership, but not the whole job. Count on one thing for sure: your chances of getting a short booklet read are much better than a long one.

The Vermont study also showed that "People are most apt to read short, easy-to-read publications on topics that interest them."

In one manuscript on beef feeding trials outside this region, rewriting cut one paragraph in half--from 160 words down to 80--and pointed up the meaning much more clearly. The author OK'd the revision. Another author sent in a manuscript equalling 16 printed pages, but his editor cut it to two pages, including three photos. After reviewing the rewrite, the author replied: "Good! Why in hell did I write 16 pages in the first place? Give me 3,000 reprints!" Still another editor cut a manuscript on co-ops about 60%--with the author's OK and even praise.

Simplicity is the stamp of genius. Among other things, simplicity means "keep it short." This borrowed "commandment" may point the way: "Thou shalt rewrite thy own copy as mercilessly as if it were someone else's."

5. By all means, bring in lots more human interest (HI). Our copy now often rates dull as dishwater, with little sparkle, zest or pep. It just plods along. Here's lively, HI writing though: "Riding or dozing? Even the horse doesn't enjoy this."

Human interest (HI) means using personal pronouns (we, you, us, they, our) names of people, nouns with gender and the words "folks" and "people." Also, sentences which are questions, exclamations, quotes, sentences starting with verbs and incomplete sentences.

Dr. Flesch says of human interest: "I consider human interest more important than reading ease...Reading ease simplifies the job of reading but human interest provides motivation--which is much more important."

Other reasons make HI important too. Your reader is deeply interested in himself, not you; so address him as "you" (the reader), like you'd talk with him. Also, a message written in terms of people is more apt to be thoroughly read. And HI aids readership; the Vermont publications study shows a positive correlation of .55 between HI and readership.

Yet HI is pretty scarce in our copy. Despite some progress since 1943, only 30% of our booklets score "Interesting" (average) or better. Specialists in one State described their writing as "too impersonal, very low in HI." And in his M.S. thesis North Dakota's associate State 4-H leader found very low HI in 4-H manuals. He studied 240 of them from 46 States and scored a random-sample 46 of them for HI. Among these only 11 rated "Interesting" (average) or better. In school that's like three-quarters of the class flunking.

How can we work HI into our copy? Force yourself to write about people doing things. Not this--"There was a decline in urban milk consumption last year." Rather this--"City people drank less milk last year." Be interesting enough to convince your reader that what you have to say is important to him--or he won't read you at all. Personal references put life into your copy.

Also use personal words, especially personal pronouns, and sprinkle in personal sentences. Like this. (It's an incomplete sentence--sort of wakes up your reader). Use case histories too; they're the most natural, human way to bring people into your copy. And write like you talk.

6. Look hard to find every spot where you might use an illustration to advantage. Remember the other half of your tools--photos and drawings as well as words. We have literally dozens of art forms in black and white or maybe in color. About the only limit is our ingenuity. And most artwork need not be expensive. It must do a teaching job too, not just decorate the page.

How can you bring in all functional artwork? When you've finished a rough draft, read it slowly as you "think in pictures" and ask yourself constantly, "Can the reader learn this info better thru an illustration?" If so, suggest one to your artist. One author did not do this; he described two types of grasshoppers in about 75 words each--yet he could



have shown a lifesize drawing of each in exactly the same space. In a few words of caption he also could have emphasized distinguishing characteristics. He threw quite a roadblock at his readers for lack of a drawing.

As someone has said, when your words produce pictures in your reader's mind, and when your pictures make him think of words, you have the perfect marriage of both to convey a message. When you try for that goal, by all means make full use of photos and drawings.

7. Make a back cover ad every time you can. A back cover ad is the punch line to your whole booklet. It appears on the outside back cover and is usually highly illustrated--about three-fourths of space in graphics with the fewest possible words.

The outside back cover is the highest priced advertising space and ranks second in attention value. Why not devise with the artist and editor the strongest possible, highly illustrated educational message? It makes your booklet a stronger teaching tool. Here are a few samples. (Slides).

8. Seek and promote joint publications with others. Business and industry are frequent cooperators; others include nearby State Extension Services, agencies of your own State government, professional associations like doctors on health and lawyers on wills, and even private foundations. These backers often contribute modest funds, furnish subject matter, check it for accuracy or even distribute copies. Such teamwork pays off to everyone's benefit. Both parties reach far more persons than each could alone. In any joint publication, as long as both parties feel that arrangements are fair, that's all that counts.

But joint publications don't just happen. Someone has to propose a joint plan to someone else and work out details. These examples show what can be done. (Slides).

9. On every job, turn on every ounce of your full creative power. That's what lifts a good job into the winner's circle. And it takes top quality to survive today's competition for reader's attention. Shoot for your very best in every job.

The creative process is not an inborn trait; rather it is acquired and can be developed. Combine the 10% inspiration and 90% perspiration into your best creative powerhouse. You'll help yourself a lot to produce publications that get results with readers.

To summarize everything, we've covered 3 main topics. (1) Groundwork--19 qualities of a good publication under 6 steps in a complete publication program, 5 required steps for any successful booklet and 8 roadblocks facing every writer of booklets, (2) a few comments on How Do My Publications Rate? and (3) How Can I Improve Them?--your own suggestions from the survey, a package of 7 skills that anyone can develop who wants to and 9 improvements you might try.

An advertising man once said, "Never bait your hook with steak because you like steak; bait it with worms...that's what the fish like." Of course our readers are not worms, yet the parallel holds for our booklets. Unless they satisfy our readers, we'll have fewer, maybe no, readers and thus lower our own teaching

results. As one specialist said, "Always remember your reader, because if you don't, he'll never remember you."

Dr. Edgar Dale, Ohio State professor of education and readability authority, says: "Writing is getting down on paper the clarity we hope is in the writer's head..... Clarity comes when we are audience-minded, put ourselves in the shoes of the reader who is, after all, the person for whom we are writing."

A country pastor ended his sermon one Sunday with these words; they seem fitting here too:

Lord, we ain't what we want to be;  
Lord, we ain't what we ought to be;  
Lord, we ain't what we're going to be;  
Lord, we're thankful we ain't what we was!

ooOoo



INTER-PROFESSIONAL RELATIONSHIPS BETWEEN  
PRACTICING VETERINARIANS AND EXTENSION PERSONNEL 1/

Within the United States the agricultural industry is served by highly trained professional people from many disciplines of science as well as from the arts and trades. Working together or separately, the various segments of personnel perform essential economic functions. The total agricultural productivity from the ingenious efforts of land owners, land operators, and service personnel transcends in efficiency, yield and quality the farm output of any other country.

Important segments of the service personnel include practicing veterinarians and agricultural experts from the Extension service. At the present time approximately 1,000 veterinarians are engaged in exclusive large animal practice; most of these practitioners render professional services to farm livestock. An additional 6,000 operate mixed practices of both large and small animals. At the same time, approximately 4,500 extension agents provide expert advice and technical training to farmers. Much of the service is given in animal agriculture. Since the veterinarians and agents are trained in different disciplines their services to agriculture are supplementary and the individuals concerned have many interests in common, few in conflict, and some in divergence.

Both the practitioners and the agents are dedicated to the agricultural industries. The welfare of each depends on prosperity of the industry. The incomes are modest and, for the veterinarian, extremely variable. Except for the modest income, the rewards are achievement of personal and professional objectives. Together they have assisted in the development of an agricultural industry unexcelled in productivity and a livestock population unsurpassed in general good health. Reasons for the success include research in the respective fields and concentrated education of the individuals. While the practitioners and agents are reasonably well educated, the farmers also in many cases have received university training.

In the United States the enormous complexity of agriculture requires a high degree of specialization by personnel who provide professional services. The veterinarian obtains six years of concentrated university training. During the first two years, commonly known as the pre-professional curriculum, the physical sciences, biological sciences, and humanities are studied. Obtainable at any institution of higher learning, this curriculum is crowded, but allows students some opportunity to elect courses of their special interests.

The professional curriculum follows the pre-professional studies and consists of four years of concentrated education in a professional college of veterinary medicine. The curriculum is filled to absolute student capacity with basic sciences, applied sciences, and the arts of veterinary medicine. The inclusion of a new course on a new and modern subject, such as radiation biology, requires discontinuance of some other course or lengthening of the total time of education. The latter cannot be justified economically. Consequently, competition between disciplines for student time is high. Veterinary medical educators, practicing veterinarians, as well as agriculturalists fully realize the need of veterinarians for training in many phases of agriculture such as soil science, animal breeding,

---

1/ Presented by Rue Jensen, Dean, College of Veterinary Medicine, Colorado State University, Fort Collins, at the Western Extension Livestock and Range Management Specialists Conference, Colorado State University, Fort Collins, Colorado, July 8-10, 1964.



and agricultural economics. Higher priority, however, has been given to training in essential and specific courses in veterinary medicine. This policy has resulted in veterinarians being highly specialized to the comprehension, diagnosis, and control of animal diseases.

In a similar manner, I presume, animal husbandry students who often become extension agents, are forced to concentrate their studies in subjects highly pertinent to animal production. Animal breeding, feeding, and marketing, along with basic physical sciences and humanities occupy their four years of undergraduate training. As in the case of veterinary medicine students of animal agriculture are highly specialized in their own field. While most students of animal husbandry receive a modicum of training in basic sanitation, anatomy, and physiology, they are highly specialized to animal production alone.

In addition to the agent and the practitioner, the farmer himself brings training and competence to the industry. In the United States many farmers have received university training and some sufficient for one or more academic degrees. Those without the formal training have developed competence by independent study, and many possess considerable specialization in at least one field of agriculture. In most cases the training includes some animal husbandry and a little veterinary medicine.

The current field situation contains specialized practicing veterinarians and specialized agricultural extension agents conducting programs in the same area to serve the same farmers. Each is highly qualified to give advice and service in his respective field of specialization and each is unqualified outside his field of specialization. In fact, the extension agent probably has no more competence in veterinary medicine than does the farmer himself, and the veterinarian has no more ability, and possibly less, in animal marketing and agribusiness than does the farmer. Consequently, the American process and tradition of specialization should be respected among all professional and educated people serving agriculture. The economic principles of agriculture of the future probably will dictate this policy. Personally, I cannot conceive of any successful animal agricultural enterprise, large or small, accepting any advice or service except the best, and the best will come from specialists. In my opinion, practicing veterinarians and extension agents supplement each other. Liberal use and consultation of the other makes each profession more efficient and more serviceable to agriculture.

As a dean of a college of veterinary medicine, I sincerely believe that students in veterinary medicine and students in agriculture should be inculcated with the American principles of specialization and cooperation. Students should be made to fully realize the potentialities and limitations of their respective fields of specialization. Students in veterinary medicine should clearly understand, as I believe they do, that they are not qualified to render service or give advice in fields of agricultural economics, such as marketing, or in other aspects of agriculture not related specifically to animal health. In a similar manner students of animal husbandry are totally unqualified to give advice or service in the various fields of veterinary medicine.



RELATIONSHIPS BETWEEN PRACTICING VETERINARIANS  
AND EXTENSION PERSONNEL 1/

We recommend that all veterinarians and county agents familiarize themselves with the memorandum of understanding and cooperation as agreed upon by the representatives of the American Veterinary Medical Association and the National County Agents' Association called at Amarillo, Texas, April 28, 1948 by President W. A. Hagen, of the A.V.M.A. and Mr. S. Sterling, President of the N.A.C.A. The official joint report of the committee included the following:

- (1) Nationwide surveys carried on by both groups indicate that in most States, relations between county agents and practicing veterinarians are good and are improving, although in a few States the relations are "indifferent."
- (2) Both groups should center maximum effort on the prevention of animal diseases. They should work cooperatively, with the county agent being the channel for publicizing the educational program.
- (3) In all communities where competent veterinary service is available, agents may be of service to producers by advising them to consult the veterinarian about disease problems, and these agents should refrain from serving as "field agents for veterinary biological products."
- (4) County agents should assist veterinarians in getting located in and acquainted in areas which do not have veterinary services.
- (5) When a dangerous animal disease is diagnosed in a community, the veterinarian should promptly enlist the day-to-day cooperation of the county agent.
- (6) County agents are full-time, paid government workers, while the practicing veterinarian must rely solely on private fees.

If good men are to be attracted to county agent service, pay scales must be adequate, and it is to the advantage of all concerned that government authorities be urged to increase the pay of these agents at appropriate times. The county agent should likewise respect the fact that if the veterinarian is to maintain proper living standards on his private-fee income, it is essential that his services be utilized on all suitable occasions.

ooOoo

---

1/ Presented by Wm. Brown, Jr., D.V.M., Extension Veterinarian, Colorado State University, Fort Collins, at the Western Extension Livestock and Range Management Specialists Conference, Colorado State University, Fort Collins, Colorado, July 8-10, 1964.





OPPORTUNITIES FOR WORK AND COOPERATION  
WITH THE AMERICAN SOCIETY OF RANGE MANAGEMENT 1/

Pat Pattengale and Mike Kilpatrick kindly invited me to join in your program and discuss some goals for range youth workers. I sincerely appreciate the invitation and apologized that prior commitments prevented my being here in person. You have among your group those who are doing the bulk of range youth work and stand to gain much from your discussions and I hope some minutes are kept and made available to all of us in the Society, Schools, Experiment Stations, Extension Services, Action Agencies, etc. so that we may be kept abreast of your programs and future plans. In fact, if you appoint a Secretary to work up an abstract of pertinent material I would suggest that it be sent to Dr. R. S. Campbell, Editor, JOURNAL OF RANGE MANAGEMENT, R.R. 7, Quincy, Illinois, as a news note for inclusion in the JOURNAL.

My observation has been that you have been doing a fine job of educating rural youths of the West through Handbooks, training youth leaders, projects, contests, camps, and awards. The youth of today knows more about Ranges and Range Management than their fathers did when they took over their ranches. You folks are doers and probably don't or can't take time to crow or to write up your success stories, but I would like to suggest that you share your experiences more broadly by writing about new features or especially successful approaches in the JOURNAL and in your own Newsletters. Perhaps you exchange Newsletters; but limited observation suggests that all might profit if you shared more of your State experiences both State-wide and by inter-state exchanges.

Most of you know that the Range Society has an organization, dedicated to stimulating educational activities especially among youth and school groups, preparing and distributing range management material and career information to promote better range management and develop career personnel; maintaining a library collection and library services; recognizing and contributing to the further development of outstanding youths by awards and scholarships; and encouraging meetings and training sessions of youth and youth leaders. We lean quite heavily on you who accomplish most of these Society objectives. But we seek your suggestions, recommendations, and concrete programs for action that the Society should engage in. Particularly, we want your thinking on the Youth Range Facts Forum. How many States or Sections recognize top 4-H and FFA youths in Range Management? Are these sufficient in number and the incentives motivating enough to all engaged in such range management youth work to hold a Youth Range Facts Forum at the annual meetings of the American Society of Range Management? We want your advice on this proposal. A preliminary tabulation of costs suggests to cover  $2\frac{1}{2}$  fares for an adult sponsor and two youths plus lodging and meals might run \$500.00 per Section or if we apply it to 18 Sections, about \$9000. I think that we can work out some joint arrangements between Sections who might handle rides for most participants while the Society met all other costs including some insurance. If you feel that such a program merits Society support please say so, have a subcommittee prepare definite recommendations and it still may be possible to activate the program by the time of the next annual ASRM meeting.

---

1/ Presented by C. H. Wasser, President, American Society of Range Management, at the Western Extension Livestock and Range Management Specialists Conference, Colorado State University, Fort Collins, Colorado, July 8-10, 1964.

If you have other proposals, collectively or individually, we are sincere in wanting them. Dillard Gates incidentally heads this area of 4-H - FFA projects, range camps, Handbooks, Awards and Youth Range Facts Forum so send your suggestions and recommendations through him, please.

There are several concerns that I might mention just in case some of you see problems that need action. For example, your Range Management Handbooks have been fine teaching tools especially for rural and ranch youths. What about the States or Sections that lack Handbooks -- can those from adjacent States be sent or is there a charge, or should the Society in cooperation with Extension Services devise a regional Handbook to cover the gap? Somehow the areas without a handbook should receive consideration and the gaps covered. Another aspect is that increasingly such handbooks are used by FFA and even some biology or science groups and the inquiring youth finds need for more projects of a scientific, experimental or demonstration nature. Where revisions in handbooks are not necessary or planned inserts could be provided or a separate projects bulletin issued. Where revisions in handbooks are made more citations to literature that answers the how and why and a section on careers perhaps with a lead to scholarship sources might add to the handbook's value. In fact for some of the diagrams and economic return charts a brief section on why might satisfy the inquiring mind and convince some fathers too! Also, a subcommittee headed by Chuck Poulton is updating our Careers brochure, and one head by Don Hervey is working on National Scholarships.

How many of our Range Society Section meetings ever invite or provide a part of the program designed for youths? How about more contests to break up the travelling and seeing on tours? Perhaps a youth project or demonstration would spice some adult programs. After all, folks seem to take an interest in what Johnny is doing!

In extending new Range Camps into other States or Sections could existing camps invite an Extension Specialist and perhaps one adult leader from a neighboring area? How about exchanging leaders among camps to broaden their knowledge and the participants' too.

Best wishes for a productive session!

ooOoo



CONFERENCE SUMMARY:

ARE REGIONAL LIVESTOCK AND RANGE SPECIALISTS  
CONFERENCES WORTHWHILE? 1/

The opening lines from Dicken's "Tale of Two Cities" gives a setting for summarization of this conference.

"It was the best of times, It was the worst of times.  
It was the age of wisdom, It was the age of foolishness.  
It was the epoch of belief, It was the epoch of incredulity.  
It was the season of light, It was the season of darkness.  
It was the spring of hope, It was the winter of despair.  
We had everything before us, we had nothing before us.  
We were all going direct to Heaven, we were all going direct  
the other way -----".

So it is with our future in Extension as we have examined it here.

We should have introduced the term "Higher Value Use" into the conference because its implications are underlying principles in several subjects approached in the discussions. Let me use an analogy to illustrate the term. ---- We are told of an exhibit in Ripley's Museum showing a moderate sized piece of iron ore in an exhibit case with a sign that reads -

This ore is worth \$5.00 in its present state.

If made into Horseshoes - \$10.50  
If made into Needles - \$32,000.00  
If made into Mainsprings for watches - nearly  
a quarter of a million dollars.

Thus, if iron ore is in limited supply and mainsprings for watches are needed, we can't afford to use the iron to make horseshoes. I submit that realignment of staffing patterns in Extension as ably discussed by Director Ratchford deals mainly in seeking a higher value use for Extension's appropriated financial resources.

Likewise, public lands, ultimately must be allocated to the highest value use for the total public good. Some of the points made by our associates from other government agencies prompted me to include a suggestion in this summary that political responsiveness and academic responsibility are not always tenable. We recognize that Extension can "catch more flies, with honey than with vinegar"; however, we dare not respond to political forces to the extent of or at the risk of losing our academic integrity. Objectivity is impossible once academic integrity is compromised, and the resulting climate is unwholesome for our overall educational efforts. In all of our work dealing in public affairs, we must convince both our friends and critics alike that we can be and are objective.

Back to the "Higher Value Use" theme - - - Interdisciplinary planning and programming is feasible only if it results in a "Higher Value Use" of staff time than

---

1/ Presented by Frank H. Baker, Extension Animal Scientist, Federal Extension Service, USDA, Washington, D. C. 20250, at the Western Extension Livestock and Range Specialists Conference, Colorado State University, Fort Collins, July 8-10, 1964.

other approaches to education. Using mass media and preparing publications usually represent a "high value use" of staff time. It seems to me that in many of these cases we must appraise a situation and decide whether the status quo is appropriate for the future. If not then, we must plan "Change". It is well known that planned "Change" is usually easier to cope with than unplanned Change.

At this point let me highlight a few items of special importance in the conference:

1. We are all indebted to the Colorado staff for the terrific job of hosting the conference.
2. We owe the "folks back home" a special "Thank you" for helping us to be here.
3. We are sorry for the absences among our ranks because we missed the contributions of those folks to the conference and we think they might have profited from being here.
4. We are pleased with the contributions of each speaker and participant in the conference. A special "Vote of thanks" goes to the speakers and participants from outside of our own specialist family. I hasten to add that our specialists are no less important so I guess we should say "thanks" to ourselves.
5. We should recognize that this is not the only way we can schedule and conduct regional conferences. In fact, some State Directors of the region have directed questions to me as why this conference was separate in location from the Western Section ASAS meeting next week. It has been pointed out to me that the things done here could have been done in some special sessions at Bozeman, Montana, following next week's ASAS meeting. In recognition of these facts, my subsequent comments concerning the worthwhileness of regional conferences are in reference to regional conferences in general and not specifically to a conference by this format.

Let's examine the value of Regional Conferences in relation to three major items:

1. The overall purpose of Extension.
2. The specific role of specialists in the Extension organization.
3. The specific objectives of the Livestock and Range Specialists Conferences for the Western Region.

In this, the fiftieth anniversary year of Extension, it is well that we go back and touch base with the purpose written in the Smith-Lever Act which still serves as the primary basis for Extension's Federal Funds. It states the purpose as: "..... To aid in diffusing among the people of the United States useful and practical knowledge in agriculture and home economics and subjects related thereto ....." History has recorded much achievement of this purpose in an educational organization unique in all records of education. The question before us today is - "Do these regional conferences 'aid in diffusing among the people of the United States useful and practical knowledge in agriculture and home economics and subjects related thereto ....."?" An answer that I might offer would be tainted with my biases and would be only one man's opinion. Each of you should examine the question and develop your answer in a conference report for your Director.

Our role as specialists in the Extension family has been characterized by some writers as helping our administrative and county staff members to "bridge the gap"



in program development between facts uncovered in the Experiment Stations' research laboratories and the problems of the clientele. I hold a strong personal belief that program leadership at the State level is a function of the specialist staff. So --- if these things characterize our job, we must ask ourselves this afternoon, --- "Do regional specialists' conferences contribute to a more effective functioning of Extension in identifying the latest technology with the solutions of clientele problems?" "Do regional conferences contribute to our effectiveness in program development and program leadership?" Certainly, the careful examination of a major problem from several points of view such as we did with the "Public Lands Problem" can provide all of us with ideas concerning methodology, technology, and an excellent background for decision-making in individual State programs.

Now let's look at some specific objectives of regional conferences, in order that you may report back home our success or failure in achieving these objectives. These purposes are:

1. To provide an opportunity for formal and informal exchange of ideas concerning successful or unsuccessful Extension methods.
2. To serve as a testing ground for new teaching and new programing methods.
3. To strengthen liaison between State specialists and with the Federal Specialists.
4. To establish channels for exchange of materials, publications, and technology between States.
5. To examine new technology.
6. To improve and update individual competency.
7. To strengthen Esprit de Corps of Extension Specialists.

By law and in the interest of safety, the airlines make continuous checks of their equipment, crew, flight patterns, etc. In my State of Virginia, we are required to have our automobiles checked regularly for safety; we all believe in periodic lubrication, oil changes, etc., for our autos and equipment of all types. Seems to me that Regional Conferences are to our professional credentials and education programs what routine service is to our airplanes and autos. Are They Worthwhile? My answer is, "It's All Up to Us --- They are as worthwhile as we make them in planning them, conducting them, and building on our experiences when we get back home."





LIST OF PERSONS IN ATTENDANCE

ARIZONA      University of Arizona, Tucson, Arizona 85721  
Albert M. Lane, Extension Livestock Specialist

CALIFORNIA      University of California, Davis, California 95616  
Lester J. Berry, Assistant State Director  
Glenwood Spurlock, Extension Animal Husbandman  
James E. Street, Range Improvement Specialist  
Horace T. Strong, Extension Animal Husbandman

COLORADO      Colorado State University, Fort Collins, Colorado 80521  
W. W. Brown, Extension Veterinarian  
William R. Culbertson, Extension Animal Husbandman  
Marvin Heeney, Extension Livestock Nutritionist  
Carl Herzman, Agricultural Programs Leader  
Rue Jensen, Dean, College of Veterinary Medicine  
Ralph Kotich, Range Conservation Specialist  
John Matsushima, Extension Livestock Nutritionist  
Paul S. Pattengale, Extension Animal Husbandman  
George E. Scott, Extension Sheep & Wool Specialist  
Dean Story, Head, Animal Science Department  
Lowell Watts, Director of Agricultural Programs

Extension Service, P. O. Box 449, Montrose, Colorado 81401  
Vern Cornforth, Area Animal Husbandman

Extension Service, P. O. Box 150, Monte Vista, Colorado 81144  
James M. Sachse, Area Animal Husbandman

                Dave Appleton, Editor, The Cattlemen's Magazine, American National  
                Cattlemen's Association, 801 East 17th Avenue, Denver, Colorado

                Ovid Bay, Field Editor, Farm Journal, Fort Collins, Colorado

                Robert R. Elliott, Assistant Director, Management, Colorado State  
                Fish, Game, and Park Division

MISSOURI      University of Missouri, Columbia, Missouri 65202  
C. Brice Ratchford, Director, Agricultural Extension Service

MONTANA      Montana State College, Bozeman, Montana 59715  
N. A. Jacobsen, Extension Livestock Specialist

NEBRASKA      University of Nebraska, Lincoln, Nebraska 68503  
Paul Q. Guyer, Extension Animal Husbandman

North Platte Experiment Station, North Platte, Nebraska  
John F. Vallentine, Range Management Specialist

NEVADA      University of Nevada, Reno, Nevada 89507  
William C. Behrens, Extension Animal Husbandman  
H. M. Kilpatrick, Range Conservation Specialist



NEW MEXICO New Mexico State University, University Park, New Mexico 88070  
Charles W. Gay, Range Management Specialist  
William Ljungdahl, Extension Animal Husbandman  
John R. Stauder, Extension Sheep & Wool Specialist

OKLAHOMA Oklahoma State University, Stillwater, Oklahoma 74075  
Clarence Bunch, Range Management Specialist

OREGON Oregon State University, Corvallis, Oregon 97331  
Dean Frischknecht, Extension Animal Science Specialist  
Dillard H. Gates, Range Management Specialist

UTAH Utah State University, Logan, Utah 84321  
Russell R. Keetch, Extension Sheep & Wool Specialist  
Doyle Matthews, Extension Animal Husbandman  
Karl G. Parker, Range Management Specialist  
Don W. Thomas, Extension Veterinarian

WASHINGTON Washington State University, Pullman, Washington 99163  
Joe B. Johnson, Extension Livestock Specialist

WASHINGTON, D. C. U. S. Department of Agriculture, Federal Extension Service, Washington, D. C. 20250  
Frank H. Baker, Extension Animal Scientist  
Charles E. Bell, Jr., Director, Division of Agricultural Science, Technology, and Management  
Lyman Noordhoff, Publications Specialist

USDA, Forest Service, Washington, D. C. 20250  
Reginald DeNio, Director, Range Management Division

USDA, Office of Rural Areas Development, Washington, D. C. 20250  
George Bradley, Staff Assistant

U. S. Department of Interior, Bureau of Land Management, Washington, D. C. 20250  
Harold Hochmuth, Associate Director

WYOMING University of Wyoming, Laramie, Wyoming 82701  
Ken Faulkner, Extension Livestock Specialist  
C. O. Schoonover, Extension Livestock Specialist  
Paul Stratton, Chairman, Animal Husbandry Department

ARGENTINA Orosman Raul Lemos, Extension Service

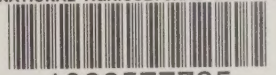
CANADA P. A. Rutherford, Livestock Specialist

THAILAND Mongkol Harnkla

TURKEY Ismial Kartal, Veterinarian  
Recet Tekman, Veterinarian



NATIONAL AGRICULTURAL LIBRARY



1022577735

NATIONAL AGRICULTURAL LIBRARY



1022577735